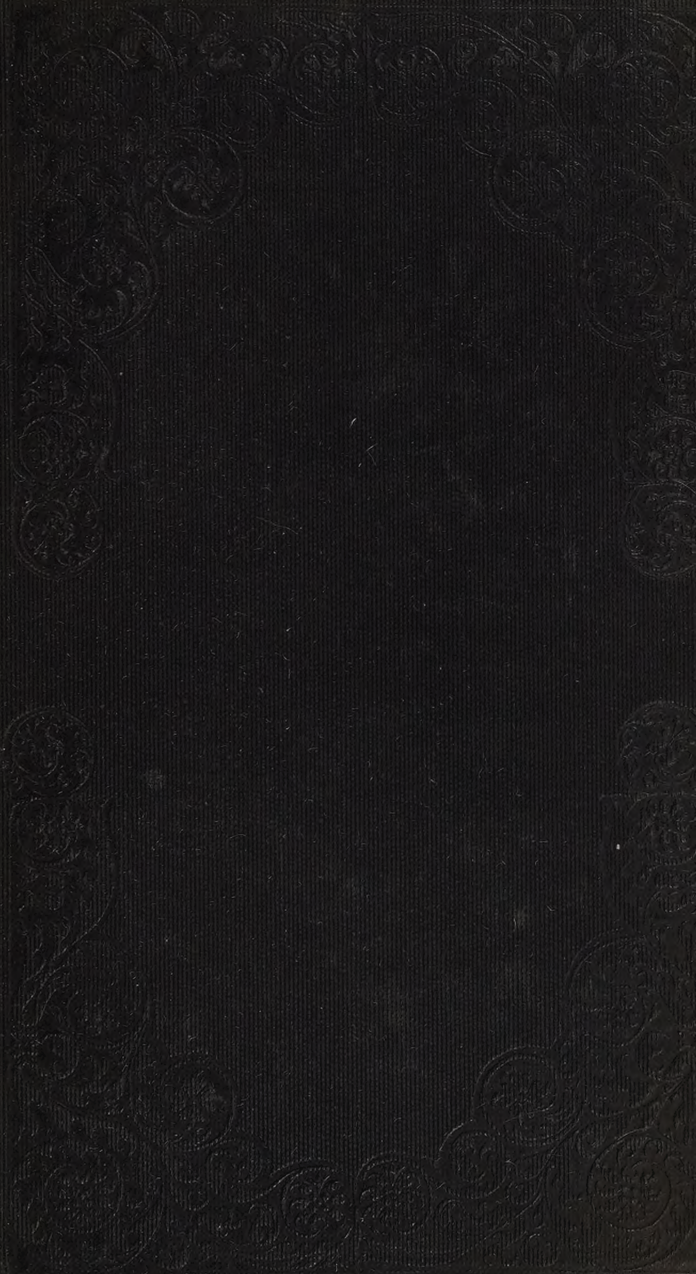

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BRAITHWAITE'S RETROSPECT.

VOL. XV. JANUARY—JUNE, 1847.

Charing Cross Hospital
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THE

RETROSPECT OF MEDICINE:

BEING

A HALF-YEARLY JOURNAL,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND
PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

W. BRAITHWAITE,

LECTURER ON OBSTETRIC MEDICINE AT THE LEEDS SCHOOL OF
MEDICINE, ETC.

VOL. XV. JANUARY—JUNE.
1847.

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Charity & Hospital:
Mortality Report—

PRACTICAL MEDICINE.

&c. &c.

DISEASES AFFECTING THE SYSTEM GENERALLY.

ART. 1.—ON DEFICIENT SEWERAGE AND WANT OF CLEANLINESS, AS CAUSES OF MORTALITY.

By JAMES STARK, Esq., M.D., Fellow of the Royal College of Physicians, Registrar of Mortality for Edinburgh and Leith,

[Dr. Stark has published an interesting paper upon the sanatory state of Edinburgh, containing an elaborate account of the comparative mortality in the different classes of society, and at various ages. His conclusions respecting the causes of the great mortality among the lower classes are very important; and will be read with interest by all in our profession who are desirous (and who is not?) of urging on the movement for the sanatory improvement of the community. Among the most influential of the sources of disease to which Dr. Stark refers, are accumulations of filth, and deficient drainage; and let it be remembered that Edinburgh, of which these hard things are said, is upon the whole, one of the healthiest large towns in the empire. Dr. Stark says:—"*Accumulations of filth* within and around the dwellings of the poor, in all cases tend to increase the mortality." The dwellings of the low Irish especially, are filled with rubbish of all kinds, which the inhabitants are too lazy to carry out.]

The mode in which these accumulations of filth act in increasing the mortality, is by vitiating the air which is breathed by filling it with noxious effluvia; and though not actually producing disease, still, by weakening the constitution, rendering it predisposed to assume whatever form of disease may be prevalent at the time.

The want of proper drainage and sewerage in many parts of the town tends to swell the bills of mortality. The admirable situation of Edinburgh adapts it for the most perfect system of drainage and sewerage. In many parts, however, of the Old Town, there are even yet no sewers; all the soilage water is thrown out on the streets or closes, and finds its way into the sewers as it best can, by means of the surface drains. In consequence of this, most of the narrow closes of the Old Town are kept in a constantly wet state and, from the putrefaction of the soilage water, exhale at all times, noxious effluvia. It is precisely in these localities that typhus fever and all other epidemic diseases are found to rage with the greatest severity. In fact, in almost all the narrow closes of the Canongate, in many of those running between the High Street and Cowgate, and still more especially in certain blind closes and courts at the head of the Cowgate, Grassmarket, and West Port, and in certain courts and tenements at Stockbridge,—in all these places typhus fever may be truly said to be endemic. It is never wholly absent from them, and whenever it is at all prevalent, falls with especial severity on the wretched inhabitants of these localities, in epidemic seasons sometimes attacking every one in these localities between the ages of 20 and 60. Being an infectious disease, however, after being once originated, it does not limit its attacks to the lowest classes, but spreads among those who from accident or other causes are brought into contact with these individuals. It is therefore a matter of importance to every inhabitant of the city, that such places should be repeatedly and thoroughly washed and cleansed, in order that these fetid exhalations may not engender, or predispose the inhabitants to take, those fatal diseases, which, once originated, spread among all classes.

[Among the more respectable classes, disease may frequently be traced to the vitiation of the air by the effluvia from badly-closed drains, water closets, and soil pipes. Dr. Stark gives several cases of this kind: he says,—]

As my attention has been directed to this subject for some time, considerable trouble was taken to procure information on these points, and a few of many instances may be adduced by way of illustration.

More than one of the members of a family in ——— street were attacked with typhus fever. During the warm weather it was a very easy matter to nose the foul odours from the drains as the house was approached.

Typhus fever cut off the head of a family in ——— row. On many occasions when passing close to the railings in front of the house, the strong odour distinctly declared the presence of choked drains or foul cess-pool.

In ——— street a lady sunk some weeks after child-birth, and the emanations from the drains were felt exceedingly disagreeable as the house was approached.

More than one of a family in ——— place were attacked with typhus fever The odour of the drains was disagreeably fetid even in September.

A family in ——— place, ever since they removed to the house they now occupy, have had their servants laid up in succession. Two were seized with fever, one died, while sore throats, erysipelas, and general ill health have prevailed among them. The emanations from the drains were so strong that they put one in mind of the smell arising from rats decaying below the floor after having been poisoned.

A family previously healthy while living in an upper flat, moved to a main-door house consisting of street and sunk floors. Scarcely a single member of the family has enjoyed a day's health since. One disease succeeded another in rapid succession, and the children only recovered on being sent to the country, The odour of the emanations from the drains is quite sensible over this house.

The very same happened this year to a family in ——— place, and though very few months have elapsed since the family removed there, the children have already assumed a pale and sickly look, and have lost their appetite for food. The drains are felt to be disagreeably fetid as soon as the house is entered.

These few facts, then, may suffice to show the effect which emanations from foul sewers or cess-pools occasion. Still as it may be doubted whether the emanations from the drains caused the effects above alluded to, a very few instances which have come under my own notice may be adduced to show the influence of removal from the foul emanations in restoring the lost health.

A family in a house in ——— street, in which a strong fetid odour arose from the soil-pipe, had constantly some of its members on the sick-list. They removed to what was usually considered a more unhealthy locality, but to a house in which neither soil-pipes nor sewers existed, and they have scarcely ever since required the presence of a medical practitioner.

Three other families in ——— place and ——— street, inhabiting houses similarly fitted up, were induced to remove to houses which wanted the convenience of a soil-pipe, when, without the aid of medicine, they recovered that health they had lost while residing in the houses which were constantly more or less pervaded with the fetid odour arising from the soil-pipe.

A family residing in a street and ground floor in ——— street lost their health from the fetid emanations from the drains. The children, previously healthy, became pale, cachectic, with loss of appetite and strength, and were affected with glandular swellings. As the cause was but too apparent, it required little persuasion to induce them to remove to a more healthy habitation, where they have completely recovered their pristine vigour and strength, and all the glandular swellings have disappeared.

One circumstance connected with this subject ought not to be passed over in silence. The first time the epidemic cholera attacked the inhabitants of this city, it was found to prevail especially in those localities which were in the most filthy state as to cleanliness, external and internal. On its second visit, however, about three years thereafter, it was a most remarkable circumstance that all the fatal cases,—indeed almost all the cases— occurred in two parts of the tenements only, viz., the lowest or ground floor, and the highest or attic floor. The whole of the intermediate floors, three. four, or five in number, were passed over by that formidable disease. This fact appearing at first sight inexplicable, I sought to discover the reason why the disease should make such a selection, and satisfied myself that it could be accounted for on rational principles. The fetid odours, dampness, and want of cleanliness on the lowest or ground floors were sufficient to account for the preference the disease exhibited for the inhabitants of these places; and it was not a little remarkable that although the intermediate floors were comparatively free from the same disagreeable effluvia, the highest floors or attics were nearly as stifling as the ground-floor, in some instances worse; the low roof, with its small skylight windows, and more confined space, seeming to have prevented the heated vitiated air of the lower floors from escaping. This vitiated air, breathed in a more concentrated form by the inhabitants of these floors, must have tended to lower the tone of their systems, and render them more obnoxious to the prevailing epidemic.

Seeing the dangers arising from these fetid effluvia from drains, &c., inquiry was made as to the cause of their escaping through the sinks and water-closets, and vitiating the air of the house. It was ascertained that in almost every case this arose from the soil-pipes being insufficiently constructed, not being provided with proper knees (or cess-pools as they are termed), or from no care being taken to unite them properly with the sewers into which they open, from the house sewer being perforated with rat burrows, being filled with a greater or lesser quantity of black putrescent mud, and being seldom or never trapped. In almost every case, too, the house drain opens into a cess-pool in front of the house, in which all the more solid matters collect and undergo putrefaction. The house sewer or drain, however, being large and square, permits a greater or lesser quantity of the same mud to collect in its interior, and the fetid emanations arising therefrom find their way into the house through the rat burrows or the walls and junctions of the sewer itself, and through the floor as well as along the soil-pipes.

[Dr. Stark expresses a decided opinion that the less rate of mortality among the highest, as compared with the mercantile class, arises from the more careful finishing of the houses of the former, with respect to sewers, soil-pipes, and water closets, and from the constant supply of fresh air which their larger and more open staircases afford. He continues :]

As a general rule, cesspools should be abolished. They are receptacles of filth, which are attended with many evils, but no counterbalancing good. That they keep out rats is the chief argument used by builders for their employment, but a proper trap on the sewer would do the same thing, and not be attended with the same danger to health. Such traps might be cheaply constructed of slate, as has been tried in many sewers in London and elsewhere. But traps are bad things on any sewer, as they tend to increase the deposition of solid matters, excepting at the mouths of those grated openings at the corners of streets where the surface drainage enters the sewer.

In every case the square box drain which runs along the ground floor of the house should be filled up, and the tubular sewer of Mr. William Dyce Guthrie be substituted. No stream of water which can be commanded in any private dwelling is sufficient to wash away the black putrescent mud which rapidly collects in these box drains. In fact, they require to be opened to their full extent in order to cleanse them, and the expense and annoyance which this causes prevent its being done so often as is required.

This lodgement of solid matters never occurs with the tubular sewers, provided the pipe be of sufficient capacity. Let the stream of soilage water be ever so small, it runs along that portion where deposit could alone occur, and carries all solid matters at once into the main street sewer. Mr. Guthrie recommends never to lay down a pipe of larger diameter than can be filled completely (or flushed) with water, so as to clear it out by its hydraulic pressure. This, however, is a dangerous rule, whose fallacy has been already proved here in the only sewer laid down under the direct superintendence of that gentleman. The two and one-half inch pipe acted well so long as it was regularly flushed once a-week or so, but since this has been neglected it has become so obstructed that a pressure of even ten feet of water failed to remove the obstruction. Besides, as house sewers are constructed to carry off the drainage of the back area as well as of the soil-pipes, no hydraulic pressure above a few inches in height could be obtained without plugging all the lower apertures into the sewer. Provided, however, the pipe be of sufficient capacity flushing with water is never required, the ordinary soilage water sufficing to carry every particle of solid matter direct into the street sewer. This is the experience of Mr. Kirkwood, plumber, Thistle Street Lane, who has taken the lead here in this matter, and has fitted up several houses with tubular sewers during the two past years. He has used leaden, cast iron, and earthenware pipes glazed in the interior, to which last he gives the decided preference, the smooth interior favouring the washing away of all solid matters, and the pipe not corroding as do both leaden and iron pipes. He recommends no pipe to be used of less diameter than three and one-half inches,—four being the preferable diameter for ordinary tenements of three to six floors. These he furnishes at about eleven pence per foot of plain pipe.

No emanations can escape from these tubular sewers, no rats lodge about or destroy them, no deposit take place in their interior; so that, if provided with a proper double knee, or cesspool as it is termed, at its junction with the soil-pipe, the present evils arising from the employment of the old square box drains may be completely avoided. These tubular sewers ought to be carried at once into the main street sewer, and the old box drain and its cesspool thoroughly filled up.

Mr. William Stark, builder and architect here, has, I believe, the merit of having recommended the use of, and laid down the first tubular sewer in Edinburgh. The whole drainage and soilage of a large tenement of six flats in the High Street was in 1826 carried obliquely across the floor of the ground flat in cast iron pipes of six inches in diameter. They are forty feet in length, and have a fall of only half a foot, and run direct into the street sewer. They have never been flushed with water, have never become obstructed during the twenty years they have been in use, and appear to be as clear as the day on which they were laid. This fact, then, ought to satisfy every one that, provided a proper sized pipe be used, no care whatever is required in the use of the tubular sewer. Were periodical flushings required for such sewers, that alone would prove a bar to their general introduction, but Mr. Kirkwood's two years' practical experience, along with the above fact, and there may be many others here of which I am not aware, suffices to show that tubular sewers of proper size have no drawback whatever.

Seeing, then, that such is the superiority of the tubular sewer, when of proper size, over the common box drain, its value in a sanatory point of view is inestimable, and it cannot be doubted that if generally introduced, it would, in a very few years, save to each family the cost of its construction in doctor's fees and medicines alone. The inhabitants would thus enjoy a greater amount of health and freedom from disease, the average duration of life would be prolonged, and fewer deaths occur in proportion to the population.

Edinburgh Medical and Surgical Journal, Jan., 1847, *p.* 26.

2.—*On Atmospheric Changes as Causes of Disease.*—By THOMAS LAYCOCK, M. D., Physician to the York Dispensary and Lecturer on the Practice of Medicine.—[In a course of some admirable lectures by Dr. Laycock on different subjects, we have our attention directed amongst other things to certain atmospheric phenomena as causes of disease. He remarks upon the great prevalence during last Autumn of diseases of the nervous system, and makes the enquiry whether the spleen may have suffered during the very hot season, or the nutritive functions have been less active. Besides epigastic or hypochondric neuralgia, he alludes to cases of quotidian intermittent, tic doloureux, or brow ague. In one case the ramifications of the upper cervical nerves were traced out by the patient; in another the pain was limited to the infra-orbital branch of the fifth. And in other cases the paroxysms were accompanied by violent head-ache.]

Now what is remarkable in these cases is this: the greater proportion of them—indeed, all, I think, without an exception—began or ended about the same hour of the day. There were two paroxysmal hours in the mason who had been working in the low grounds towards Malton, and who had suffered for two or three weeks: the paroxysms began regularly at four o'clock, P.M. and continued to four o'clock A.M. He then got ease, and went to sleep. And this was the case with several others. But the man with neuralgia of the supra-orbital nerve began to suffer at eight or nine o'clock, A.M., and the paroxsym continued until eight or nine o'clock P.M. Of course there is a reason why these hours are selected for the commencement and termination of the paroxysm: what, then, can it be?

In the first place, we find that the atmospheric tides attain their maximum and minimum at certain hours of the day: for there are tides in the circumambient atmosphere, as well as in the circumambient ocean; and therewith there are also changes in the electricity of the air and the magnetism of the earth. From 8 to 10 o'clock A.M. and P.M. the barometer is at its maximum height; the electric tension is at its maximum too; and there is also the greatest maximum variation east of the magnetic needle at the same hours. From four to five o'clock, A.M. and P.M. the barometer is at its minimum, and so is also the electric tension. It ought to be borne in mind that there are other diseases which have a relation to these meteoric hours, but principally those of the nervous system, as insanity; or those whose onset is dependent upon some predisposing condition of the nervous system, as cholera. The respiratory movements, and of course the activity of the circulation is in connexion also with these hours. About four or five o'clock in the morning, with a minimum temperature, a minimum electric tension, and a minimum height of the barometer, there is also a minimum consumption of oxygen. Further, I have ascertained by frequent inquiry that sleep generally comes on about that hour after a feverish restless night; and, what is more remarkable, the statistics of deaths in York show that the chances are in the proportion of three to two; that the last sleep—the sleep of death—will occur at that hour. Now, all these coincidences cannot be accidental; and as the operation of natural laws is as unerring as that of the most exquisite machinery, due investigation and inquiry only are requisite to lay bare the whole mystery.

The quantity of rain which falls has an important bearing on the health. I have not, however, as yet explored statistically the relations of the hygrometric condition of either the atmosphere or the earth. I cannot help, however, pointing out to you the vast advantage which accrued to the inhabitants of London during the August meteor week of this year, that ending the 8th. During the first three weeks of June no rain fell, or only 0·04 of an inch, and during the last week of that month, and the succeeding month of July, there was no continued rain; only 2¼ inches fell, with a high temperature during the whole six weeks. The consequence was, that the sewers were not washed, and diarrhœa was epidemic. But on August 5th, a heavy storm burst over the metropolis, above 2 inches of rain fell, and luckily for that vast population there collected, the accumulated *debris* of themselves and their domestic animals were swept from the sewers by mighty torrents of water. The results were instantaneous. The deaths from diarrhœa immediately became fewer, and the line of mortality continually descended without a check until the week ending October 10th, when there was a slight increase.

Now, on looking at the diagrams for the four previous years, we find the second meteor week of August 1842 was the culminating point of epidemic dirrhœa, &c. and of temperature; both fell from the week ending Aug. 20, the mortality being 107; and this summer, though less tropical as to heat, closely resembled the last in the amount of rain during the summer months of May, June, July, and August. In 1843 matters were different; much rain fell during May, June, and July, and cleansed the sewers, while the temperature was much lower. The result was, that the highest number of deaths from diarrhœa, cholera, &c. during the week ending August 12th, was only 35, against 240 in the week ending August 8th, 1846. But September 1843 was a hot and dry month, with less than 7-10ths of an inch of rain, and then the mortality rose to 98 during the week ending September 23rd. During the last week of June, and the first week of July, 1844, nearly three inches of rain fell, and although the subsequent weeks were hot, with little rain, the mortality reached no higher maximum than 71 during the week ending August 10th, from which time (being checked by the meteoric changes of that period) it gradually declined. The weather was occasionally very hot in June and July 1845, but the mean temperature was low, and there was abundance of rain—nearly five inches in two months; consequently the mortality from diarrhœa was low, and never attained a higher point than 50 during the meteoric week ending August 9th, from whence it immediately fell. The latter weeks of August and the beginning of September were hot, with little rain, and the mortality thereupon attained another maximum, during the week ending September 27th, of 51, and thence it finally descended to the winter level.

How strikingly do these facts point to the true source of cholera—diarrhœa, and their sister-scourge, continued fever! If a heavy rain falls in the summer months, and cleanses the sewers of London—those wide branching recipients of myriads of water-closets—the three-headed hydra slumbers; but let the sun beat upon that wilderness of streets in the month of June—streets teeming with an *immigrant* (as well as their own) population, to be counted by tens of thousands, and seething beneath their surface with the hourly excreta of that vast mass of human beings—without one cleansing shower, and the result is as I have demonstrated. How many lives, then, would a regular flushing of the sewers during last summer have saved, and how much suffering, not to London only, but to the other towns!

Medical Gazette, Dec. 18*th*, 1846. *p* 1044.

3.—ON THE USE OF QUININE, IN PERIODICAL DISEASES.

By Dr. Holmes, U. S. Army Med. Staff.

[The following remarks on Quinine, although having especial reference to the diseases of Florida, may probably be equally applicable to similar diseases in all other parts of the world. Dr. Holmes has been long practising in Florida, and gives the following rules for treating disease in that malarious climate.]

Every periodical disease is to be checked immediately. Quinine, as a remedy for periodicity, is to be given regardless of any existing state of inflammation. Never give quinine in divided doses when directed for the immediate cure of a periodical disease. To be certain of the operation of quinine in a constitution with which you are not acquainted, it must be given eighteen hours before the desired result. In emergent cases it may be given in the lowest state of prostration, or the highest grade of the fever. As a general rule fifteen to twenty grains will be necessary for an intermittent, and thirty to fifty, for a congestive fever. Never give quinine for the cure of a periodical disease in anticipation, when the periodicity exceeds five days.

In small doses quinine is a tonic, in larger doses its tonic is quickly followed by its stimulating property; but in grave periodical diseases I am disposed to think its sedative effect the one which tells most certainly; but to procure this in any perfection it must be given in a large dose; and here it seems to me has arisen the great discrepancy in *times*, at which quinine has been given; any dose of quinine that produces sedation, generally goes through a stimulating process; if this process happens at the onset of an intermittent fever, the fever will in all probability be checked by it; and hence you have cases in which quinine checks a chill when given immediately before it comes on; but it will be seen from the preceding remarks, concerning the difference in the cure of a quotidian and tertian, that this immediate cure by stimulation is not so certain or effectual as the subsequent one, which I think is accomplished by the sedative effect of this article; in this sedative effect, I think, consists the great anti-periodic power of quinine. Tartar emetic in large doses is also a powerful remedy against periodicity by the same property; opium and belladonna also by the same, and alcohol, piperine, capsicum, etc., by the possession of tonic and stimulating effects. If the sedative properties of tartar emetic could be procured independent of its tendency to irritate, I can think of no remedy for serious periodic diseases surpassing it; yet this property is not produced in any great degree by small doses of the article, nor does it follow the exhibition of the like doses of quinine.

It is the continued small doses of this agent that harrass and irritate. A patient at the north takes one or two grains almost daily for weeks, until he has swallowed sixty or more grains in the course of a month, and then is indignant at the idea of a fifty or sixty grain dose being given at once in Florida, which suffices for the same period. As large an amount of calomel may he taken at once with but little bad effect; but give it in divided doses, and the result is irritation, fever, and ptyalism. Small continued doses of tonics, like quinine, cannot be given long with impunity. The most natural conclusion, if you would give quassia for weeks, would be that your patient would finally reject his food; his stomach would be debilitated instead of strengthened, and placed in a proper state to take on inflammation.

There is one great source of error to a northern physician, in reading the accounts of the large doses of quinine given at the south, this consists in the supposition that these doses are often repeated, while the truth is, the large dose generally suffices for the cure of the disease. It is the nature of intermittents of course to continue their attacks, when the patient resides in the same atmosphere that gave origin to the disease.

In diseases of this climate, eminently periodic in their character, and of a highly dangerous type, it will be apparent that the plan of giving quinine in divided doses cannot be entertained. The disease is one in which you cannot afford to lose so much time; many cases of fever are presented in which you are convinced the patient will succumb to a second or third paroxysm; the first of these may, with great certainty, be expected at the end, or before the lapse of twenty-four hours; and one would be operating by the rule of books, without ever consulting the evidence of his own senses, who would continue to give quinine in small doses up to the hour of the expected and dreaded paroxysm. It has been seen that it requires eighteen hours at least for the full effects of quinine to be manifested; yet many physicians will give ten or more grains, in two grain doses, commencing about ten or twelve hours before the expected highest grade of the paroxysm; it is evident that scarcely a grain of quinine is here brought to bear on the fever: but will not the third paroxysm be checked by the ten grains, if that quantity is sufficient? It probably may, but be the quinine a tonic, a sedative, or a stimulant, you want its power in one of these respects concentrated on the fever. It cannot be thought strange that the practice at the north of giving quinine in divided doses, for bilious, remittent, and congestive fevers, should prove so unsuccessful. Though the fevers there do not require such large doses of this article as at the south, they require very different ones from those that are now given. I have known in Chester county, Pennsylvania, in a small district, one-fourth the number of patients die, who were seized with a pure miasmatic, congestive fever, differing from that of Florida only in its lighter grade; yet the disease, as treated by army surgeons in Florida, with quinine, was one of the least mortal, probably not more than one in forty cases proving fatal.

I had an attack of congestive fever in December, 1841, a month after I came to the territory, with which I lingered for three weeks on the verge of the grave, at a distant post, and with no better medical assistance and advice than I could give myself. A stranger to the powers of quinine, I took it in grain doses, for a fever which I am in the habit of checking now in a day's time, by drachms, instead of grains, of this great agent. The congestion was on the brain, the pain so intolerable that the slightest motion could scarcely be borne; the intolerance of light and sound perfectly tormenting to the senses; the muscular system weak and languid; the eyes and cheeks cadaverous, and after a few days deeply sunken in. How often, subsequently, with all these symptoms at their height, have I given forty or fifty grains of quinine,—have seen its effects on the brain, aggravating for the time every symptom, or occasionally but slightly affecting the disease for some hours; and then, as the sedatve effects came on, have beheld the patient drop into a composed sleep, his skin become moist and natural, (no better diaphoretic than this agent, in many states of the system,) and awake in six or eight hours, a man really free from disease; this may appear all exaggerated to those who have never seen congestion, or its treatment in this manner, but to any one who has, I appeal whether this description is not unvarnished truth.

This agent is essentially opposed to the periodic effects of malaria, nor are these effects by remission always apparent; nor do we give quinine only for fevers. They comprise but a small class of the diseases that remit; and this remission may be so slight or brief that neither the patient nor physician can discern it; and the degrees are of all grades, from the slightest alleviation of the symptoms, to the enjoyment of almost perfect health. We know of no disease occurring in a malarious region where remission may not be suspected, for there seems to be no disordered action that cannot be affected by this powerful agent. If the physician in the south can be blamed for his too great enthusiasm for the specific (if there is such a thing) for all these ills, he has certainly chosen a handmaiden worthy of his worship. To one accustomed to look at the slow and languid operation of medicines, in fevers at the north, and the want of faith with which they are given, the operations of this medicine appear miraculous; they are only equalled, when it has fair play, by its certainty.

American Journal of Medical Science, Oct 1846, *p* 297.

4.—*On the Hydropathic Treatment of Fever.*—By J. H Stallard, Esq. Surgeon to the Leicester Dispensary.—[In our last volume (xiv. p 138.) we gave the conclusion of an interesting article by Dr. Forbes on Hydropathy, published in his Review for Oct. 1846. The perusal of the entire article will amply repay the reader for his trouble, notwithstanding all that has been said against it. In the British and Foreign Review for Jan. 1847, we find that some of the suggestions of Dr. Forbes have been carried out by Mr. J. H. Stallard of Leicester. Dr Forbes says:]

We have great pleasure in laying the following communication before our readers, as the first fruits of our attempt to rouse anew the attention of the legitimate members of the profession to the great value of cold water as a therapeutic agent, and thus, if possible, to stimulate them to rescue its use from the hands of ignorant non-medical pretenders and charlatans. Mr. Stallard, like a man of sense, did not hesitate to apply what he thought would benefit his patients, because the mode of treatment might have first been used by one ignorant of all science, or since practised by some devoid of all honesty. He adopted the good as he found it; but, like a scientific practitioner, applied the remedy according to the rules of science,—at the proper time, in the proper cases, and in the proper manner. It is thus we would have the members of the profession to act generally, and so bring under the domain of scientific medicine, and within the pale of professional practice, what must now be considered as a weapon of power in the hands of our enemies—as we may truly call those who profess to use the hydropathic or any other method of healing diseases, while ignorant of the knowledge on which alone rational practice can be based. To say that cold water employed in the mode lately introduced by Priessnitz is not a powerful therapeutic agent, is simply to express ignorance of a common and well-known fact; and to admit its potency as an agent, is equivalent to saying that, improperly administered, it is capable of doing mischief. In fact, we know that it is capable of doing great mischief, and believe that it has done great mischief; but it is also capable of doing great good; and we have called upon the members of the medical profession to destroy the evil, and cherish and promote the good, by taking the practice—or as much of it as is warranted by fair evidence—into their own hands, and modifying it in accordance with the laws of science, and in obedience to rational experience.

We are far from asking our readers to adopt hydropathy in an exclusive form, much less to become professed hydropathists; on the contrary, we ask them to assist us in destroying hydropathy as it is now practised, and in routing the whole phalanx of trading water-doctors, by cutting from under them the ground on which rests their strongest hold on public patronage—viz., the pertinacious and scornful rejection by the professors of certain modes of treatment employed by them, which the public have found to be useful, and choose to patronize accordingly.

In making the attempt to awaken attention to this subject, at the time and in the manner we made it, we were well aware that we should excite opposition not merely from the ignorant and self-interested, but even from some who were qualified to judge of the question, both as a matter of science and as a matter of professional propriety, but who had not had any experience of the facts, or well considered the subject in a scientific point of view. But here, as in the previous discussions in the Journal, on Homœopathy, Mesmerism, and Phrenology, it required no effort on our part to meet any opposition that might be excited, or to tolerate with perfect calmness any criticisms that might be addressed to us: the importance of the object to be attained—the singleness of our aim—the consciousness of proper motives—were sufficient to render us perfectly satisfied with the result, whatever it might be, and to keep us steadily and quietly advancing in the humble path which we had deliberately chosen. Our first object in what we have done, and are doing, is the attainment of truth; our next is the maintenance and promotion—if it may be—of the honour, and dignity, and true interests of the medical profession. In the attainment of these these objects, or in the endeavours to attain them, we trust we shall never so far forget ourselves as to prefer, at any time, the wrong because it is fashionable or safe, or to abandon the right because its advocacy may expose us to some inconvenience, to the imputation of unworthy motives, or even to the charge of a dereliction of professional duty. He is a poor politician and a poorer philanthropist who thinks only of the present, and cares only for the pleasing.

We would fain hope that we of the British and Foreign are made of sterner stuff.

[Mr. Stallard treated his cases in the Leicester Union Fever Hospital. He did not select his cases, but fixed chiefly on those which seemed best adapted to the treatment: and this practice was even more generally adopted by Mr. Stallard's father, both in public and private practice. The mode of proceeding was as follows:]

The patient was stripped naked, enveloped in a *cold* wet sheet, and covered with a blanket. After remaining in this situation from ten to fifteen minutes he was, without being dried, immediately wrapped in a blanket thoroughly heated before the fire, and thus removed to another bed and covered over with bedclothes. The effect produced by the wet sheet is, first, a sensation of great cold, accompanied with sighing; but this is almost immediately succeeded by an agreeable sensation of coolness and comfort; the sheet then begins to grow warm, and when the heat of the skin had been previously very great, the blanket reeks with steam. Shortly after the patient is removed to the warm bed he begins to perspire, his headache and muscular pains cease, and he sinks into a calm and undisturbed sleep, from which he awakes still perspiring, but painless, refreshed, and occasionally well.

With respect to the character of the fever which has so extensively prevailed in this neighbourhood, I believe it to be the common typhoid fever of this country. Its type has varied considerably; for the most part its tendency has been enteric; but during a few weeks, and that especially during the observations I have detailed, there was a marked tendency to pneumonic implication, chiefly of an asthenic character. With a few exceptions, I have not observed much cerebral disease.

[After giving us a table to show the results of the hydropathic and the common modes of treating fever, at the Leicester Union Fever Institution, and the Leicester County Fever House, which were decidedly in favour of the former, he makes the following remarks.]

In the first case, the patient had a slight cough before the cold application, and it appeared as though the cold had rather increased the internal congestion; but the general state of the boy clearly showed that the constitution was entirely relieved by the profuse perspiration. The cough did not return with the second application of cold.

Case II. was one in which I hesitated to use the cold, fearing lest the internal organs, which were already seriously affected, should suffer by it; but the disease seemed so really serious, the skin was so remarkably harsh and dry, no perspiration having ever taken place since his admission, that I determined to try it The effect was most gratifying; the perspiration seemed at once to unload the system, to restore the functions of the lungs and alimentary canal to something like order, and the stimulants ordered at the same time aided, I have no doubt, in bringing about this desirable and, to me, unexpected result.

The third case was equally successful. Although the patient had been under the ordinary treatment five days without real benefit, he was at once relieved by the cold sheet. The application in this case, as in most others, caused *immediate costiveness.* This is remarkable; for the general type of the epidemic has been characterized by the frequent occurrence of diarrhœa.

Of the following cases I shall only notice the eighth and tenth; the former being by far the most striking cure resulting from the cold-water treatment—a single application, without any medicine, having restored the healthy condition of the body.

The last case, although terminating fatally, does not furnish a single argument against the use of the cold sheet. The death was, no doubt, caused by sudden congestion of the lungs, which fever patients are especially prone to, and the tendency to which was probably augmented by the dose of morphine admininistered over night to allay the excessive restlessness. The application of the cold itself was followed by the best result, viz., free perspiration; which I am afraid was checked by the restlessness of the patient causing the bedclothes to be thrown off and the body to be exposed. I have related it with the rest; and, although I should, perhaps, hesitate again to employ the sheet in the very advanced stage of fever, especially where there is great irritability of the nervous system, I think its use must be highly advantageous in debilitated persons when first seized, as it enables the practitioner to employ beef tea, wine, and other stimulants, whilst, at the same time, means are being used to restore the action of the skin and the healthy condition of the blood.

I shall not tire your patience with remarks on the pathology of fever, or the theory of its *cure;* but, before concluding, I shall offer one or two observations which have occurred to me during the epidemic of the present autumn. At its commencement I very frequently employed an emetic at the first onset of the febrile attack, and with very varied success. In many cases, free vomiting was accompanied by profuse perspiration, in a few by purging also; and these cases, without exception, got well immediately; but in other instances, and those not a few, no perspiration ensued, and in these as constantly did the tongue become dry and foul, the thirst and fever increase. I think that this observation, together with the evidence afforded by the cases I have recorded, clearly shows that, in this epidemic at least, a fever may be cured, and that not by a rash, uncertain, and empirical mode, but by a remedy which coincides with and favours the efforts of Nature. This I think the cold sheet, as applied by me, does, first, by relieving the system of caloric which it is endeavouring to get rid of by overaction of the skin and lungs; secondly, by reducing the temperature of the surface, and so enabling the skin to resume its healthy excretory action; and, thirdly (through the natural stimulus given to that healthy action), by depurating the blood of those effete matters which the checked excretion of the skin had locked up in it.

[A great deal has lately been said and written on the cold hydropathic mode of treating disease, but we do not remember any allusion to what we shall call the *warm* hydropathic treatment, which we think may be extensively and safely used in the treatment of those diseases in which the application of cold might be injurious. One great end accomplished by the hydropathic treatment is simply enveloping the whole body in what we may denominate a *warm poultice*, as, although cold at first, the surface soon becomes warm; and if this warmth does not take place it is generally injurious and even dangerous. But why not use a *warm* moist sheet or flannel *at first* and prevent evaporation by blankets or oil silk. We have tried this method lately with considerable satisfaction in cases where the skin was hot and dry, and perspiration was required; particularly in children. The following has been our simple apparatus—the flannel petticoat of the mother dipped in warm water, and, after being squeezed pretty well, put over the whole surface of the child and tied gently under the chin: over this moist warm flannel wrap two, three, or four blankets so as to prevent evaporation, or envelope the patient in oil silk; in about half an hour or an hour, the skin will be in a profuse perspiration, and the moist flannel may then be taken off and the surface kept warm with the dry blankets. We merely throw out this hint respecting the *warm* hydropathic treatment for the consideration of our readers, and have no doubt that it will be improved. It is in reality enveloping the body in a poultice made more completely than by the ordinary cold water system, and is much more gratful to the feelings of the patient. Why may we not recommend the same principle to be applied to the *whole surface* of the body which we find so useful in the dressing of wounds and in the subjugation of congestion and inflammation in different localities?]

British and Foreign Medical Review, Jan. 1847, *p.* 269.

5.—ON SCROFULA.

By Dr. Glover, Lecturer on Materia Medica, in the Newcastle School of Medicine.

[Dr. Glover in his excellent work on this subject, discusses the treatment of Scrofula under two heads: 1st General Treatment, 2nd Particular Remedies; and the various opinions advanced, are illustrated by an appendix of cases.

Under the 1st head we find it stated that, "the most certain indication in the general treatment, whether for the purpose of prevention or cure, is in the use of means hygienic and medicinal tending to strengthen the system." The author recommends the use of milk prepared according to the plan of Dr. Paris, viz., by expression through a bag of suet, to children whose mothers are scrofulous, especially if the circumstances of the parent do not admit of a healthy nurse being obtained. In support of the great importance to be attached to the employment of warm clothing, he cites the authority of Mr. Lloyd who relates cases shewing that this alone has greatly benefited some cases of scrofula, and prevented the disease from attacking the chest.

" The principles on which the medicinal treatment of scrofula should be founded, arise evidently from the pathology of the disease. If we are called to see a patient in whom the actual diseased process is only imminent, we should have recourse, as a general rule, to the use of tonics, attending to the state of the secretions and excretions at the same time, and often conjoining the use of alteratives. Frequently the outbreak of the disease is preceded by a disorder of the digestive system, although to these symptoms of deranged digestion, a very exaggerated importance has been ascribed; for we have observed cases in which the tongue continued clean, the bowels regular, and the appetite not very insufficient before, and during the formation of the tumours." In other words although the author admits and describes the derangement of digestion which frequently occurs in scrofula, he denies on the ground of the occasional absence of such symptoms, their exclusive power as causes of the disease to regulate the treatment. Among general tonics he ascribes great importance to the combination of the saccharine carbonate of iron and calumba. He does not entirely proscribe the use of mercury, but recommends it occasionally as an alterative. " Where the tongue is furred or spotted with reddish maculae, the pulse quick and irritable, and the bowels constipated, a state very common at the commencement of scrofulous tuberculization, benefit will often be derived from the use of hydrarg. c. creta in a dose of three or four grains twice a day along with seven or eight of magnesia combined sometimes with rhubarb."

Dr. Glover justifies the opinions which he professes with regard to remedies in scrofula, and in particular with regard to mercury and iodine, by pointing out a certain similarity between the physiological properties of these substances and their compounds. In truth considerable analogy exists between the action of mercury and that of iodine: the compounds of both substances are powerfully irritant in large doses, tonic and alterative in small doses, and given so as to act constitutionally, appear to have the power of greatly accelerating and increasing the destructive digestion of the tissues; and both when pushed to excess, give rise to dangerous constitutional effects connected with a peculiar erethism" (p. 241.) He considers the subiodide of mercury one of the most powerful remedies which we possess for effecting the absorption of a scrofulous tumour.

Speaking generally, the treatment of scrofula according to Dr. Glover should be of two kinds: tonic and deobstruent. His impression appears to be that those remedies which directly produce the absorption of a scrofulous tumour act by increasing the quantity of urine and the proportional and actual amount of urea in that fluid, the urea being the product as he contends of the secondary digestion of the albuminous tissues; and thus at length the albumen morbidly effused as tubercle-matter is taken up. He endeavours to shew by analysis that the use of iodine does actually increase the quantity of urea. It has been asked if this theory be true, as colchicum has also this effect, why is it not useful in scrofula? But the depressing action of colchicum and its effect on the stomach unfit it for use in scrofula; while the combination in iodine of tonic and deobstruent properties render it peculiarly suitable in this disease.

Dr. Glover is a strong advocate for the external application of bromine to scrofulous sores. "It forms an easily prepared and cleanly lotion; 8 or 12 minims of bromine being added to a pint, half a pint, or 8 oz. of water." Several cases are given, illustrative of the good effects of this application.

In regard to the doses of iodine, repecting which much controversy has existed, he prefers a medium system, giving the compound tincture of the London College, or a simple solution of hydriodate of potass. He commences with 25 drops of the compound tincture to adults thrice a day, and augments the dose to 30 or 40 drops if the patient can bear it. Frequently, however, "when the dose becomes above 35 drops, nausea, pains in the stomach, and sometimes vomiting and purging are occasioned, in which case the dose is immediately reduced." He states that where the patient can bear a good dose without it disagreeing, he finds no inconvenience from the secondary action; but does not give iodine in very cachectic subjects, preferring in them the use of the hydriodate of potass alone, the syrup of the iodide of iron, or cod liver oil. The bromide of potassium can be taken when the iodide could not, from nausea.

In regard to cod-liver oil Dr. Glover strongly denies the specific view taken of its use by German writers, and by Dr. Bennett of Edinburgh. This view is, that the excess of albuminous plasma in the blood of scrofulous persons may be worked up by the oil mechanically into blood-cells. Dr. Glover's opinion is that cod-liver oil is beneficial as a tonic from the resin which it contains, as a deobstruent by increasing the flow of urine, and as a nutritive agent. He has weighed patients both scrofulous and phthisical who were taking the oil, and noticed in some cases, a striking increase of weight during its use.

He has no faith in the efficacy of very minute doses of iodine and bromine in mineral waters. Where good is accomplished by such waters, he ascribes it to the quantity of alkaline and earthy muriates which they contain, and recommends particularly the waters of Shap and Shotley.

Several other remedies are spoken of; but as much from objects of curiosity as of practical utility.

The whole subject has been studied attentively by Dr. Glover, and the result is a sound and practical application of his knowledge to the treatment of this important disease.*]

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* On the Pathology and Treatment of Scrofula, being the Fothergillian Prize Essay for 1846. By Robert Mortimer Glover, M.D., &c., &c.

Laycock is of opinion that the proximate cause of scrofula, is a perversion of the nutrient fluids and functions; the blood corpuscles are diminished in quantity, while the albumen and fats of the serum are increased. A proportionate diminution of oxygen exists with this small number of corpuscles, thereby rendering imperfect the conversion of the nutrient materials, and a consequent loss of heat.

Dr. Laycock, therefore, arrives at the inference, that as this morbid state might take place from impure air and innutritious diet in any temperament, so scrofula can not be peculiar to any temperament.]

Now (says he), the scrofulous cachexy is that state of the system in which you have general bad health, with a deposit of a certain morbid product, already described to you under the term tubercle or tuberculous matter. I told you to consider this and the deposit in scrofulous glands as identical. I said that the tubercular diathesis and the scrofulous diathesis were one and the same, but that when the deposit took place in the lungs or on the serous membranes, whether of the encephalic, thoracic, or abdominal cavities, you might call it tubercular, and if in the mucous membranes, or in the glands, or bursæ mucosæ, it would be right to call it scrofulous. These are practically the only distinctions between scrofulous and tubercular deposit. You have *tubercles* of the lungs—of the heart—of the brain; *scrofulous* deposits in the liver, the kidneys, the uterus, the mesenteric glands, the joints, the subcutaneous glands. Very trustworthy authorities have maintained that the two are essentially different, but I prefer to adopt the opposite side of the question. I think it both the more practical and the more correct. A person may during childhood escape death from tabes mesenterica, or *wasting* from scrofulous deposit in the mesenteric glands, to die of tabes pulmonalis, or wasting from deposit in the pulmonary cells; but his escape from the one does not prove that the other is different: it only proves that the circumstances of childhood were more favourable to his general health and to prophylaxis, to the *prevention* of scrofulous deposit, than the circumstances of puberty or of adult age.

If a scrofulous child escape tabes mesenterica, it is in danger of scrofulous deposit in the serous membranes of the brain; and if this takes place a slight cause will excite inflammation of those membranes, and you have "water on the brain," as it is termed, or acute hydrencephalus.

Sometimes peritonitis follows on the deposit of tubercles in the mesentery, and then you have water in the belly, or ascites. We have such a case under treatment in the person of a boy, aged two or three years, I think He has the distinct scrofulous facies; has had persistent diarrhœa, feverishness, hungriness, wasting, and other signs of mesenteric disease; and now there is a tumid abdomen and manifest fluctuation. The bulimia in tabes mesenterica is always a remarkable symptom; the instinct of alimentiveness is excited, and the patient, with *both* its little skinny hands full of

6.—*On Scrofula.*—By Thomas Laycock, M.D., York.—[Dr. food, will be fiercely angry if it observes another to eat from its dish, or even to eat at all; and you generally observe a peculiar expression about the mouth corresponding to this fierce instinct; curved lines passing from the alæ nasi to the corners of the mouth, and a knitting of the brows, all which traits are highly characteristic of tabes mesenterica. This patient first had minute doses of calomel, he then took, and is now taking, the iodide of potassium, and he has further friction on the abdomen two or three times daily, with an ointment of iodide of lead. He is doing well under the treatment.

There are two brothers, aged seven and nine years. The nine-year old is the less of the two, and he stood blinking before us, having scrofulous ophthalmia, with his face distorted by a large cluster of scrofulous cervical glands on the left side. The other boy has also enlarged glands, but no ophthalmia, and nothing else except small superficial abscesses on the scalp. The nine-year old has done well with sulphate of quinine: this, combined with alterative doses of calomel, is by far the surest remedy in scrofulous ophthalmia. The other has improved much while taking the iodide of potassium. They both have bright red hair, and as a young female who came with them had similar hair, a striking scrofulous facies, and a family likeness altogether, I was induced to inquire if she were sister to the boys; but she was not, only cousin, and yet she was clearly of the blood, perhaps more strikingly so than their own sister is. This illustrates the alternation of generation, or rather the collateral transmission of hereditary family traits.

Enlarged and truly scrofulous cervical glands are very commonly seen in children from the age of three years and upwards. During dentition the cervical glands of children younger than three years will enlarge. but they quickly subside, and rarely leave those large bosselated masses which you so frequently see under the ears and jaws of lads from three to ten or twelve years of age. I believe you will find the iodide of potassium a good remedy in these cases, sometimes combined with a chalybeate, and with inunction with iodide of lead ointment, in the early stage. It certainly allays the pain and inflammatory condition of the glands. Of course, when the scrofulous matter is largely deposited in the glands, it must be looked upon as a foreign body, and the gland must suppurate before it can be got rid of. When they have suppurated the skin is often left in a flabby unhealthy state, and there is a thin ichorous discharge. Under these circumstances you will do good by pencilling the skin with nitrate of silver two or three times a-week. I do not think I shall be accused of trenching too much upon the domain of the surgeon in mentioning these particulars. The fact is, that there is no *definable* line between medicine proper and surgery proper, and when you hear an individual making a great noise about some imaginary trespass on his domain of physic or of surgery, you may conclude that the gentleman is a little behind the age, or that there is a sad film before his mental vision, which prevents his perception of the undoubted truth that the domains of medicine proper and surgery proper can never be defined.

I believe these enlarged cervical glands have been the handle by which surgeons have dragged scrofulous diseases into their department. These morbid glands have long been considered to characterise the disease termed scrofula; but a spirit of enlarged pathological research has amply demonstrated that cancerous and scrofulous, and other so-called surgical diseases, are but the outward manifestations of an internal disease: so surgeons are turning physicians, and physicians turning philosophic surgeons (witness Dr. Walshe's Work on Cancer), and these old absurd attempts at defining the two departments of practice are made to appear more absurd than ever.

I see that Dr. Glover, of Newcastle, in his recently published work on Scrofula, (a work containing the results of original investigations), states it to be a popular belief that scrofulous cervical glands prevent the internal disease becoming manifest; and he quotes an observation by Sydenham somewhat like that I have just made. I certainly cannot say I have seen phthisical persons *cured* concurrently with these scrofulous glands; but I am sure that their presence in good large masses (and if suppurating so much the better), is the guarantee for a prolonged existence to your patient. I have such an example under my care at this moment. How this happens can only be theorized on, but it is not unreasonable to suppose that there is a derivation from the lungs to the glands; that what tubercular matter is deposited in the glands would have been deposited in the lungs had there not been glandular irritation to attract it there. With the humoral pathology the old terms of that pathology will come into use, and we may say, with regard to scrofulous diseases and deposits, *ubi irritatio ibi fluxus.* The old methods of treatment adopted by the old humoral pathologists will come again into vogue; and I cannot doubt that, in the gouty and scrofulous cachexies, *derivants,* such as issues, setons, and perpetual blisters, may be, and are, of advantage.

Medical Gazette, Nov. 29, 1846, *p.* 911.

7.—*On Purpura, or Land Scurvy.*—By Dr. Laycock, York.

Scurvy is the old name for purpura hæmorrhagica, and *land* scurvy for purpura without hæmorrhages: the two diseases are allied; they are only varieties of the same disease.

[It consists in a lesion of the capillary system and of the blood, which is deficient in fibrine. Dr. Laycock details two cases lately occurring, and he observes that if not checked, the disease will assume as formidable an appearance as marine scurvy; there will be spreading ulcers, the gelatinous fungus on the skin and gums termed by sailors "bullock's liver," and finally death. He says,]

The explanation of the symptoms is not difficult. The morbid condition of the blood has impaired the contractility of the vascular system. In the depending portions of the body the capillaries give way from the mere gravitation of their contents; thus giving rise to the vibices in the legs, and in the under surfaces of the thighs. The petechiæ are really small inflamed or congested papillæ, or the mouths of sebaceous glands. The muscular pains are those of fatigue; there is not enough fibrine in the blood for the nutrition of the muscles and the maintenance of their action.

With regard to the etiology of the disease, it is doubtless that of scorbutus, or scurvy. It is in this respect that the cases are interesting. We do not notice them because they are rare or curious (although they are so in York), but because it is probable that they will cease to be rare and curious. The potato has hitherto supplied our population with an abundance of fresh vegetable food, containing a small quantity of vegetable acid (the tartaric) in combination with potass; and no doubt the free use of this vegetable has tended to render scorbutus much less prevalent than before its introduction into this country.

In the two cases under treatment potatoes have ceased to constitute an article of diet. The old pensioner anterior to Christmas almost lived on potatoes; since, he has not tasted one. The diet of both patients has been unvaried; there has scarcely ever been a change from the constant diet of tea and bread. The tea would doubtless be made weak, from the extreme poverty of the parties, so that in reality the two men have been living on a diet little better than bread and water, with sugar and a little butter.

In the second volume of the Transactions of the College of Physicians (published, by the by, seventy-five years ago), there is the history of two cases of scorbutus, communicated by Dr. Milman, in which the disease appears to have been caused by a bread and tea diet. More recently, Dr. Baly has shown that scurvy was most prevalent in prisons where no potatoes were used. Various other causes of scorbutus have been assigned. It has been observed to occur in persons with a sufficiently nutritious diet, and, indeed, in the volume to which I have just referred, there is a case, by Dr. Munro, of purpura hæmorrhagica, or inveterate scurvy, occurring in the person of a young man who had an ordinary diet, but possibly without *potatoes*, as he had "greens or roots for dinner," meaning, perhaps, by "roots," turnips, carrots, or parsnips. In this case the pulse was strong and full. It is to be remembered, however, that there are persons in whom the tendency to purpura hæmorrhagica is congenital and hereditary, and is dependent upon the peculiarities of the *male* constitution, inasmach as the disease appears only in the male branches of a family of "bleeders," as they are termed. An hereditary disease of this kind may undoubtedly be acquired; in the examples mentioned it cannot have been hereditary *per sæcula seculorum* backwards, and consequently, as it may be acquired, it may appear independently of defective alimentation, or of the defective supply of certain chemical constituents of the blood. This form of purpura is, however, quite distinct from the one under consideration, which arises from the causes just mentioned.

The treatment is obvious from the etiology. The diet must be regulated so that there shall be due variety, and that vegetables containing the acids named should enter into it. We have prescribed meat, porter, and potatoes, for both our patients, and they will, I trust, be able to attend to this part of the prescription. In addition, four grains of citric acid is to be taken every four hours. The pensioner is already improving; the comb-maker has not yet had his diet long enough from the poor's board. I may mention, however, that citric acid, although the established remedy in these cases, has sometimes failed in effecting a cure, or preventing the disease, on board ship. Nitrate of potass has been found to be an efficient substitute, and as gunpowder contains nitre, the remedy can be extemporized during a voyage by pouring boiling water upon the powder, and filtering. Citric acid is, I fear, somewhat adulterated, and probably a spurious article has been used when it has failed to check the disease. Of course, lemons and oranges are beneficial, but there are cheaper vegetables than these to be got as the spring advances. Rhubarb, cabbage, water-cresses, sorrel, horse-raddish, turnip-tops, all belong to the class of anti-scorbutics, and were taken extensively in the spring by our forefathers (who had few fresh vegetables, and little fresh meat, during the winter) as "purifiers of the blood." Formerly a spring course of vegetable alteratives must have been highly beneficial; in our forgetfulness of the social condition of our forefathers, we slight their experience, and the traditions thereof. I see "nettle-beer" advertised in a shop window as an anti-scorbutic, and I rather think the urtica, from containing the nitrate of potass, will be a useful addition to the spring dietary. Nettle-tops boiled can scarcely be distinguished from spinach, if taken when young, and well seasoned.

The results of the deficiency in the potato crop will not appear only in the outbreak of palpable purpura or scorbutus. People are continually coming to us complaining of the premonitory symptoms; as lassitude, spongy gums, sore mouth, "flying" muscular pains, and with a certain waxy pallor. They have also anorexia, and epigastric pain, with slight feverishness. In these cases it is almost invariably stated that potatoes have ceased to be an article of diet, and that bread is "the staff of life." It is to be observed, too, that in case the typhus fever now prevalent in Ireland makes its way into our large towns during the summer, we shall have the "spotted fever" of our forefathers, in addition to the "purples," as purpura was termed. In short, we shall have all fevers assuming the appearance of greater malignancy which the outbreak of petechiæ, vibices, and venous hæmorrhage, gives to them, and these will characterize scarlet fever, small-pox, and measles, as well as typhus. Now, the prophylaxis is all-important: no pains should be spared to encourage the daily consumption of such vegetables as I have mentioned; the reasons should be pointed out—their force will easily be appreciated by the public; a demand for fresh vegetables will be created, and the supply will follow as a matter of course. Thus medical science will fulfil its highest duty—the prevention of disease.

I ought to add, that in his last Quarterly Report, the Registrar-General called public attention to the necessity of substituting suitable vegetables for the potato with special reference to the prevention of scorbutus.

Medical Gazette, April 2, 1847, *p.* 573.

8.—ON ACUTE RHEUMATISM.

By Dr. W. R. Basham, Physician to the Westminster Hospital.

The first condition that fixes our attention in rheumatic fever is the amount and peculiar kind of pain suffered by the patient. Gnawing, aching, darting, are the terms in which it is described; erratic and flying from part to part. Warmth aggravates it—motion aggravates it—cold aggravates it—there is no relief for it but from appropriate internal remedies; and the selection of these is based on the principle of getting the excretory organs at work, and eliminating from the system the morbific material on which this disturbance seems to depend. I say seems, for such would appear to be the proper interpretation of the remedial effects obtained by our treatment. All the agents employed save opium are evacuants, and operate directly or indirectly on one or the other of the secerning functions. Now, the products of secretion in rheumatic fever, are all palpable departures from the average composition of these educts. They are chemically so; and they are even so to common observation. The fœtid acid secretions of the skin, the dark, deep, sedimentitious urine, the offensive ultra-bilious dejections — all declare the secretions eliminated from the blood to be vitiated and to contain compounds, organic and inorganic, either in excess, or even foreign to the healthy excretion.

The inference from this is, that till secretion be excited and the blood freed from the organic and inorganic elements of diseased action, pain and disturbance of the proper balance of the functions must continue. Consistent then, with these views, our first object is to unload the intestinal canal of its impure and vitiated contents. A brisk calomel purge, followed by colchicum, given in combination with some saline purgative. Now, colchicum in these cases has no specific virtues—that is, no special counteracting influence against what was conceived to be the rheumatic virus, against which it acted, as an antidote acts upon a poison, either by decomposing it, or by uniting with it and forming an innocuous compound. Such doctrines as these are imaginary and untenable. Colchicum acts in virtue of the gallate of veratria that it contains, as a powerful and energetic purgative, operating upon a full extent of the intestinal canal, and clearing away in its operation depraved mucoid accumulation which obstructed the orifices of the innumerable ducts of the canal, and thus permits the follicular secretion of the tube again to exercise its essential influence in restoring the regular function of the intestine. Colchicum is better given in small doses repeated twice a-day itill the bowels act freely, and the secretions have assumed an improved appearance, rather than in a large dose, which causes too much depression, and is after all not effective in producing brisk cathartic action. Adjuvant to these, hot baths should not be neglected, indeed they serve to carry out the principle laid down as our guide in the treatment of this fever. Hot baths induce free sudoresis, excite the cutaneous capillaries, and obtain from the skin a large amount of secretion, which differs materially in its composition from the perspiration of health, lactic acid being in abundance, and even acetic acid having been detected in it.

Calomel and antimony exercise a remarkable influence over the inflammatory action in acute rheumatism. I know of no remedy that can be depended on for equal efficacy, or that can be relied on for uniformity or certainty of action to the same degree as the potassio-tartrate of antimony. Its efficacy in inflammatory diseases of the fibrous tissues is, if possible, augmented by combination with calomel, and for the reasons mentioned when speaking of the use of opinm in fever, the calomel and antimony should be combined with a drug.

That acute rheumatism is a purely inflammatory disease of a sthenic character every symptom connected with the fever explicitly declares, and that the treatment throughout must be conducted on the strictest antiphlogistic principles is evident by the success which follows attention to these principles, and the certain prolongation of the disease, and the frequent relapses that occur, when they are neglected. The blood, in acute rheumatism, is identical in character with the blood in the true inflammations. The composition of the urine in the disease is also corroborative of the true inflammatory type) its specific gravity is high, 1.018 to 1.022, its colour is of a very dark orange, even sometimes of a claret-red, there is powerful acid reaction, with copious deposit of the urate of ammonia—sometimes pink, sometimes fawn coloured—and under the microscope, as you saw yesterday in a similar case, among the amorphous grains of the urate were scattered a large quantity of orange-coloured crystals of uric acid, some lozenge-shaped, some apparently sections of cylinders. both of which deposits are constantly present in diseases possessing the true inflammatory character.

In the dietetic treatment of the rheumatic fever, the great principle for your guidance should be to avoid as much as possible the more highly azotised elements of food. Farinaceous preparations, gruel, panada, &c., are preferable to beef-tea or meat broths; and when the acme of the fever is passed, much caution is required in the use of animal food and vinous stimuli, for in no inflammatory disease is there so great, or even an equal tendency to relapse, from what may appear but trifling errors in the diet and regimen.

Provincial Medical and Surgical Journal, Dec. 16, 1846, *p.* 597.

Quinine in acute Articular Rheumatism.—Several Prench journals have lately directed attention to the employment of quinine in acute rheumatism. We are informed that it was M. Briquet, now one of the physicians of La Charité, Paris, who first administered it in this disease. The success which he obtained could scarcely vanquish the repugnance which many had to prescribing so energetic a medicine. Some unfortunate cases, also, in which from the dose being too large, or the individuals peculiarly predisposed, alarming accidents, and even death had been caused, added to the discredit in which it was at first held. At present, however, a re-action has taken place in its favour, and a considerable number of the hospital physicians in Paris are of opinion that, given with prudence, in moderate doses, beginning with 1½ grammes to an adult, and ·75 gr. to a child, the sulphate of quinine causes effects of a slightly energetic nature only, at most, trifling cephalalgia, noises in the ears, and slight indistinctness of vision.

Amongst the physiological effects, one of the most interesting, without doubt, is the depressing action which it exerts on the circulatory system, the pulse daily diminishing in force and frequency. In a few days the pulse has been known to fall fifty beats, and that without the individual experiencing any very well-marked symptoms of intoxication. Another important effect, is the modification it produces in the rheumatismal pains. In general, at the end of 12 or 24 hours the patients are considerably relieved; the swelling and rigidity, however, still remain. Unfortunately this result is not always constant and durable, but there are exceptional cases, for in the great majority of instances, the amelioration is rapid and permanent.

It has been objected to this treatment that it does not prevent the cardiac complications which are so likely to arise. But do we know any absolute means of doing this? Do we not see rheumatic pericarditis develope itself in individuals treated by the most energetic antiphlogistics? But in some cases it has been observed that the cardiac disease has diminished daily under the use of sulphate of quinine.

On the whole, the treatment of acute articular rheumatism by sulphate of quinine, when employed with prudence, is without danger. Doubtless, it will not succeed in every case, but where is the remedy that will? Whenever there is no amelioration on the third or fourth day, notwithstanding that the dose has been gradually increased, the medicine should be discontinued, and some other treatment employed. such as bleedings, nitrate of potass, colchicum, opiates, &c. But whenever the pains are rapidly diminished and the pulse rendered less frequent, it is very probable that the articular rheumatism will be cured on the eighth day. In one case it only continued four days. Sometimes it is useful in robust and plethoric subjects to precede the use of sulphate of quinine, by a bleeding from the arm. It may be added that the drug is easily administered, that children take it without hesitation, notwithstanding its bitter taste, and that it will, probably, be of the greatest service in the treatment of acute rheumatism in

young persons, a period of life when blood-letting if not injurious, is seldom advantageous.—*L'Union Médicale*, 23rd Fevrier, 1847.
Monthly Journal of Medical Science, April 1847, *p.* 782.

Nitrate of Strychnia externally in Gout.—M. Wendt recommends the nitrate of strychnia, in the form of ointment, in irregular gouty affections; for example, in gouty affections of the vertebral column, which, through the filaments of the great sympathetic, attack the chest, and give rise to symptoms imitating angina pectoris. The formula recommended is as follows:—nitrate of strychnia 10 parts; axunge 8 parts: to be made into a perfectly homogeneous ointment, and applied by friction on the sides of the spine two or three times a day.—*Gazette Médicale de Paris*, 13 Mars, 1847.
Monthly Journal of Medical Science, April 1847, *p.* 775.

9.—*Pyro-acetic Spirit in Gout and Rheumatism.*—By Dr. John Hastings.—[It is well known that some years ago, Dr. Hastings introduced pyro-acetic spirit, or naphtha, as a remedy in phthisis. Experience, he says, only serves to confirm his opinion of its value in that disease. Of the value of this opinion, however, we entertain the greatest doubt. He has suggested the use of the same remedy in another class of diseases, and we hope that it here may prove more successful. He says,—]

I have now to deal with another class of diseases, about the diagnosis of which there is no room for either cavil or doubt, I mean gout, acute and chronic rheumatism. For upwards of twelve months I have employed pyro-acetic spirit in these affections, and my treatment has been attended with a success quite extraordinary, far exceeding the results usually obtained by colchicum, &c. I have not yet seen a case of gout or acute rheumatism which has not rapidly disappeared under its use, at the same time that it brings about a very improved condition of the general health. Chronic rheumatism requires a more lengthened treatment for its removal; indeed, it has less power over this affection than the two preceding
Lancet, Jan. 16, 1847, *p.* 67.

DISEASES OF THE NERVOUS SYSTEM.

10.—ON THE ORIGIN OF THE SPINAL NERVES.

By A Shaw, Esq., F R S, &c.

[In a discussion at the Medico-Chirurgical Society, Mr. Shaw made some remarks on this subject, which have an interesting reference to injuries and diseases of the spinal marrow. He thinks that practitioners have not paid enough attention to the mode in which the anterior and posterior roots come off from the spinal marrow, nor to the assistance which may be obtained by comparing the origin of the fifth cerebral nerve with that of the spinal nerves.]

In regard to the first point, the anterior roots of the spinal nerves arise by numerous fine radicles from the very surface of the anterior column, thus apparently showing that the part of the cord from which they derive the power of motion, is situated superficially. The posterior roots, on the contrary, dip boldy into the interspace between the posterior-lateral and posterior columns, and they reach a deep part of the organ before they subdivide to form any perceptible connexion with the cord; in short the mode of the origin of the posterior roots is quite different from that of the anterior, and from their passage so deeply into the interior, it may be inferred that the part of the cord which bestows sensibility is situated deeply. These views throw light on a fact which must have been frequently observed in cases of disease or injury affecting the spinal marrow—namely, that the power of motion is commonly lost before sensation, or is destroyed to a comparatively greater degree; the explanation of which seems to be that the morbid action affects the column of motion situated superficially, before it can reach those of sensation, placed more deeply in the cord. In regard to the proofs which may be drawn as to the exact columns of the spinal marrow which confer sensation, from tracing the roots of the fifth cerebral nerve to their origins, some dissections, described by Sir Charles Bell in his later papers to the Royal Society, seemed to be of peculiar interest. The fifth nerve resembles the spinal nerves, in having two roots, one of which bestows motion, and the other sensation. It arises at the base of the brain, from the side of the pons varolii, apparently at a very remote distance from the spinal marrow. It is well known, however, to anatomists, that the larger root, proved to be that which gives sensation, has its real origin from a point which may be considered the commencement of the spinal marrow. On following the thin, flat, ribbon-like band of medullary matter which forms the proper root downwards through the medulla oblongata, Sir Charles Bell was satisfied that it did not pass in the direction of the posterior column of the spinal marrow, and that it had no connexion with that column: he observed, that it took a more lateral course, and disappeared in a tract which he regarded as the continuation of the posterior lateral column. From the same column he found posterior roots of the spinal nerves arising, and he consequently inferred that it is the posterior-lateral column, and not the posterior, which is the source of sensibility in the cord.

Medical Gazette, Nov. 20, 1846, *p.* 891.

Paralysis of Sensation.—This form of paralysis is less dangerous than that of motion, inasmuch as it is cured with less difficulty. In fact, it is almost always curable, and generally follows hysterical affections. (Cruvelhier.)

Monthly Journal of Med. Science, Jan. 1847, *p.* 543.

11.—*On Diseases of the Nervous System with the same Symptoms, but arising from different Causes.*—By Dr. R. CHAMBERS, Physician to the Essex and Colchester Hospital.—[We cannot be too frequently reminded how important it is in practice to treat each case according to its own merits, without being influenced by the *name* affixed to the disease. Dr. Chambers judiciously points out the following instances, in which similar symptoms arise from totally opposite causes, and therefore require very different treatment:]

In apoplexy we have a suspension of the functions of the brain, dependent upon an excess of blood in that organ. In syncope we have a similar state of the cerebral functions from a deficiency of blood.

We have convulsions dependent upon an excess of blood in the brain, as in cerebritis; and *per contra* we have convulsions dependent on a deficiency of blood, as in excessive hæmorrhage.

In the varieties of delirium tremens, in the varieties of puerperal convulsions, and in continued fever, as contrasted with inflammation of the brain, we have a similar type of symptoms, arising under opposite conditions of the system, and requiring opposite modes of treatment.

The delirium tremens which attacks the habitual drunkard, who becomes suddenly deprived of his drink, is in appearance similar to the delirium that attacks the individual of usually temperate habits, during an excessive debauch. But experience tells us that in the one case we have to deal with exhaustion; and in the other, with a state closely bordering upon (if not actually), inflammation of the brain. The puerperal convulsions that arise during the efforts of parturition, are in appearance the same as the convulsions that come on after the birth of the child, which merely depend upon fatigue, combined, it may be, with too great a loss of blood; and the delirium of fever has so close a resemblance to the delirium of cerebritis, that writers of no mean authority have been induced to view the two diseases as identical, or, more properly speaking, to consider the former disease as the consequence of the latter, and to regulate the treatment accordingly. There is not, I am convinced, in the whole range of practical medicine, a more fatal error than this; it induces its disciples, (and they are numerous), to have recourse to blood-letting at a period when their efforts should be directed to the increase and restoration of the vital fluid. I have alluded to blood-letting because it generally stands first on the list of remedies; but it is quite possible to do an equal or even greater amount of mischief by the improper use of purgatives and mercurials.

Provincial Medical and Surgical Journal, Dec. 16, 1846, *p.* 599.

12—ON THE DIAGNOSIS OF HYPERÆSTHESIA.

By Dr. T. Laycock, York.

Diseases of the nervous system, and more especially of the sensory portion, become daily more important, because the progress of refinement, the development of large cities, and the greater cultivation of the intellect than of the physical powers, consequent on the wide application of science to the arts, increase daily their number and complexity. Pain is a symptom present in various and diversified morbid states. It is pre-eminently the symptom by which we become conscious of disease in the organism; it is the sentinel that warns us of impending danger. Hence much stress has been laid upon it, especially in inflammatory diseases, of which it is one of the first characteristics. Pain is felt through the medium of the sensitive nerves; it is the result of a disturbance of the functions, or a change in the structure of those nerves. In inflammation the disturbance or change is seated in the percipient points—the peripheral terminations; the points on which sensorial impressions are made co-existent therewith are a greater susceptibility to impressions, a condition expressed by the term tenderness; so that impressions formerly too feeble to excite sensations, or only forcible enough to excite sensations of a pleasurable kind, now, in the altered condition of the nervous twigs, excite pain.

By the term hyperæsthesia, this condition of the nerves is meant; pain and tenderness are its characteristics. But they do not exist in virtue of a change in the tissues surrounding the nerves, and involving them as in inflammation, but in virtue of a change limited to the terminating twigs, to the track of the nerve, to the sensory tract of the spinal cord, considered as partly a continuation of sensory fibrils, or to their termination in the brain, or that part of the brain which is the seat of consciousness. The greater susceptibility arising from a morbid condition of the nerves only, and that arising from a morbid condition of the tissues to which they minister, are therefore expressive of two widely different morbid states; the one is neuralgic sensibility, the other the pain and tenderness of inflammation. Being widely different in their nature, they require a widely different plan of treatment; and consequently the diagnosis of the two conditions, or a true estimate of the value of *pain and tenderness*, as leading symptoms, is of the first importance.

The seat of neuralgic pain is always in the terminating twigs; but that is rarely the seat of the cause. It is in the trunk of the nerve, or to the sensory tract of the cerebro-spinal axis, that we must look for this. In the pain of inflammation the cause is local, and when it is external there is tumor and rubor.

The morbid condition giving rise to hyperæsthesia may be seated in the fibril or the central axis, and it may be either primary or secondary. Any cause which exalts the sensorial function in either point gives rise to hyperæsthesia; as a mechanical injury or contact, or congestion of the neurine. Nerves of sensation passing through foramina in the bones, or winding round bones or tendons, are peculiarly liable to the first-mentioned causes. Hence the nerves of the face are so much more frequently neuralgic than others. Spiculæ of bone, or of cartilage, or analogous deposits in or on the sero-fibrous envelope of the spinal cord, are of this character. With regard to other causes of hyperæsthesia, the most frequent and most important is a propagation of irritation from the peripheral twigs to the central axis, a diffusion of that irritation through the grey or white matter, so that it involves other nerve-fibrils, and a consequent extension of the pain and tenderness to other sensory nerves. We thus explain the pains experienced in the hips and thighs from congestion of the uterus. This transmission and diffusion of irritation may be from contiguity, as in the case just mentioned, or from functional connexion, as between the mammæ and ovaria or uterus; or the sympathy may arise between parts deriving their innervation from a common system of nerves, as the uterus and stomach. Hence the anatomical and physiological relations of the organs affected must enter largely into our consideration when establishing the diagnosis between neuralgic and inflammatory pain and tenderness.

Hyperæsthesia of the vagus or pneumogastric nerve, especially of its œsophageal and gastric branches, is perhaps the most common of all neuralgic affections; and this frequency ought not to create surprise when we remember how directly all mental operations act upon these nerves through the central axis—how quickly poisons taken into circulation react upon them—how intimate is the connexion between the stomach and other viscera of the abdomen and pelvis—and how continually the nerves of the stomach are exposed to the application of local irritants. When we know that a puncture or wound of a sensitive nerve in the hand or finger will excite irritation in those of the whole limb—that from these it will radiate upon the nerves of the opposite limb, and, extending its influence upwards and downwards, at last involve the lower extremities and trunk, we may reasonably infer that some such train of phenomena may occur after local irritation of the nerves of the stomach, and that the nerves of the heart and lungs, and the sensory twigs of the upper extremities, may become involved in the morbid condition, while with the extension of it upwards, hypochondriasis supervenes. Common as this class of diseases is. I know none which demand more care to establish a correct diagnosis. The most common forms of this hyperæsthesia are gastrodynia, pyrosis, pleurodynia, globus, and the sympathetic affections of the heart and brain termed palpitation, headache, hypochondriasis, &c. In persons predisposed or liable to spasmodic asthma, the pulmonary plexus will also be involved, and coughs, asthma, &c., result. These symptoms vary almost *ad infinitum* in their combinations.

An instructive case has been presented to our notice lately. A woman, aged 50, experienced great pecuniary losses, and, to solace herself, she took stimulants and contracted habits of intoxication. In a while, she was attacked with violent pain in the epigastric region, acid eructations (pyrosis), violent palpitation, constriction of the throat, and the sensation as if something was rising (globus), and total loss of appetite. The pain in her left side could almost be covered with the finger; in her right, it shot down the side and down the arm, even to the finger ends. When supine, she felt a great weight upon her body, as if something was pressing heavily upon her *(incubus)*, and she had continually a dread of something going to happen—a depressing consciousness of guilt, and fear of impending punishment, but without any ideas whatever regarding it. Her former adviser shook his head, and she therefore concluded that her disease was incurable. Her tongue is slightly furred.

Now here, at the first glance, you might infer either disease of the heart or of the stomach; and we investigated the heart's action, but it was perfectly normal; nor was there any induration, tension, or tenderness in the epigastric region. A further consideration shows, however, that the vagus is most probably the seat of the disease; for—1. the etiology is significant - depressing emotions and local stimulation preceded the attack; 2. the characters of the phenomena themselves, as the pyrosis, indicating increased activity in secretion; the pain indicating increased susceptibility to impressions; the pleurodynia (neuralgia of an intercostal nerve) and neuralgic shootings in the right arm indicating radiation of morbid action upon the cerebro-spinal nerves; the globus indicating spasmodic action of the œsophagus; the pain and palpitation of the heart not dependent on structural change, and therefore consequent on disordered innervation.

The indications of treatment consequent on this diagnosis were to allay irritation by alkalies, metallic oxides, combined with morphia, and counter-irritation. Temperate habits were insisted on, or death was declared to be the alternative; and the result was, considerable alleviation of the symptoms. One source of hyperæsthesia was not investigated in this case, namely, structural disease of the uterus. This, I ought to add, is an extremely common cause of hyperæsthesia of the vagus and solar plexus in women, and of all the secondary phenomena.

We have had many cases of gastrodynia and of nervous palpitation complicated with chlorosis. I am inclined to think that in these the primary cause of the affection is a poisoning of the blood by miasmata, and that the cæliac axis or solar plexus is the portion of the nervous system through which the splenic functions are disordered, inducing chlorosis, and co-incidently (not as a sequel) the œsophageal and cardiac plexuses. It is quite certain that the morbid condition of the blood in gout is manifest in some persons by disordered innervation of the cæliac axis only, and gives rise to the spasmodic or neuralgic affection termed "gout in the stomach," or the "spasms." These ætiological considerations should always have weight in your diagnostic estimate of the symptoms. Nature knows no difference between cerebro-spinal, reflex, or sympathetic nerves, unless it be that the latter are more frequently affected by malaria and other poisons than the former. It is extremely probable that the numerous examples of periodic neuralgiæ in organs supplied from the sympathetic system, recorded by authors, belong to the same class as brow-ague, and other periodic neuralgiæ of the cerebro-spinal nerves.

I should advise you to cultivate the habit of looking upon the nervous system as a whole, all the parts of which act and re-act upon each other. It *may* be true that every nerve in connexion with the spinal cord consists of the five distinct nerves some writers represent, namely, volitional and sensual, incident excitor and reflex motor, and sympathetic; but it certainly is not *proved.* On the other hand, if you conceive all the nerves to be subject to the same general laws, but having different functions in virtue of a difference in the apparatus on which they are distributed, and in the centres on or from which they act and re-act, you will, I think, arrive at results as comprehensive as the five-fold division affords, but much more comprehensible and much more applicable to everyday practice. The physiology of the nervous system must be carefully studied by you if you would practise happily; but the study is a fascinating one when once entered upon, and you may be tempted to a chase after discoveries, or the illusive fame of them, instead of a pursuit after truths by which you can cure or alleviate disease. Depend upon this, that no men are so unhappy as "discoverers" *ex professo.*

Medical Gazette, March 5, 1847, *p* 397.

13.—*On a New Means of Diagnosis, in Affections of the Nervous System.*—By Dr. A. WALLER, Kensington.—[Dr. Waller recommends irritation of some of the nervous trunks. as the ulnar, median, or peroneal, as a means of diagnosing obscure nervous diseases. Any of these nerves are to be pressed aside with the finger, so as to be made tense, and then allowed to slip. This he terms "vibration:" its effects are two-fold, motory and sensory. The former are, slight flexion of *(e. g.)* the hand, especially the last two fingers, followed by lassitude in the limb. The latter, (sensory) effects, are pain, and the well-known feeling of "pins and needles." Diagnosis is made by comparing the sensory and motor effects on the opposite sides.]

Medical Gazette, Feb. 5, 1847, *p* 232.

14.—ON MORBID RHYTHMICAL MOVEMENTS.

By G. E. PAGET, Esq., M.D , Fellow of Caius College, Cambridge, and of the Royal College of Physicians, London.

[Dr. Paget relates some curious cases which have fallen under his observation, and cites some others which various authors have recorded, of disease in which the most prominent symptoms were morbid movements, not like those of chorea, but definite, and repeated in regular rhythm. The chief interest of such cases consists in the physiological speculations to which they may give rise. The first case recorded by Dr. Paget is that of a respectable woman, thirty-five years old, who came under his care at Addenbrooke's Hospital, Cambridge. The description is graphic:]

As I entered the waiting-hall, which was full of patients, my attention was at once arrested by this person. The others were seated, but she was on foot in the midst of them, and was bowing alternately to the right and left. The movements were no ways hurried, and under other circumstances might have been taken for the complimentary bows of a person receiving a numerous company; but there was this difference—that they were repeated without intermission, and with a regularity that was truly rhythmical.

I desired her to enter my private room. The movements continued, and she declared her total inability to restrain them. I desired her to sit down: she sat down, and the movements ceased. But as soon as they ceased, she complained of a distressing sensation at the lower end of the sternum, over a spot the size of a crown piece, which was not tender on pressure. She said she felt as if she should be stifled. She soon rose from her seat, and the restless bowing movements re-commenced.

The next time she seated herself at my desire, she was seized, after a few minutes, with a paroxysm of more violent and varied movements.

First, her right foot beat the floor with rapidity and violence for a minute or two; then both feet did the same, thumping the floor with great energy; then came a heel and toe step; and then lateral movements of both feet, outwards and inwards, so as to separate them twenty inches or so, and then bring them together. Each of these movements was continued a minute or two, and the last of them was suddenly terminated by her springing forcibly from her chair, and, after a few more jumps, subsiding into the alternate bowing movements, performed with somewhat more vigour than before the paroxysm. Again, these were changed into a vibration of her right leg, which was swung backwards and forwards like a pendulum, with great vigour and freedom. By main force I succeeded in holding the leg still, or nearly so, for a time, during which I had to resist many sudden jerks of the knee and foot: and in two minutes after I had ceased to restrain the limb, its oscillation re-commenced, and continued for a few minutes longer, to end in the more ordinary bowing movements. These latter movements were synchronous with the pulse, being 42 to either side in the minute, the pulse being 84.

She said she was much fatigued by the movements; which had continued for more than a month during all her waking hours, and were in no degree under her control. She was not exempt from involuntary movements even in her sleep, but they were then less regular and less constant.

[The patient, who had previously enjoyed good health, married at the age of 31. She bore one child, in a protracted labour, and the catamenia were regular during lactation. Eighteen months after her confinement, she began to have hysterical fits, recurring every few days, and leaving irregular twitching movements of the limbs for a day or two afterwards. These attacks continued until the commencement of the bowing motion. As to the treatment, Dr. Paget says,]

On the day of her admission I prescribed nothing but six drachms of castor oil, which produced three very copious solid motions, although the bowels had previously been acted on by a purgative prescribed by Dr. Thackeray. The next day I ordered twelve leeches to her temples, two grains of sulphate of iron with five grains of rhubarb half an hour before each of her three daily meals, the shower bath every morning before breakfast, full diet, without beer or vegetables, and plenty of walking exercise in the open air. I gave her the most positive assurances of recovery.

The improvement was rapid. The movements first abated and became more under control, then ceased altogether. A tendency to them continuing, however, for some days longer, indicated by slight occasional snatching of the right knee, and by the distressing sensation at the sternum, if she remained too long at rest.

This headache was relieved by the leeches. Her other symptoms were daily ameliorated; the sternal oppression abated; the bowels became regular, so that the dose of rhubarb was gradually reduced to two grains; and she became very cheerful and happy at her improvement.

She was able to control the movements after six days of treatment, and continued improving in health until the 26th March, when the catamenia appeared, and she complained for a few days of a sensation of cold at the crown of her head, and pain down its left side. These symptoms ceased with the catamenia, and on the 6th April she quitted the hospital in perfect health.

[A more common case is that of *rotatory movement of the head*, of which Dr. Paget gives us an example. The patient was a Hertfordshire girl, who was admitted into Addenbrooke's Hospital with paralysis of the lower extremities, of eight months' duration. Previously to the occurrence of the palsy she had been subject to peculiar movements, of which we have the following account:]

These involuntary movements were of two kinds. The first consisted of an incessant rolling of her head from side to side on the pillow, continuing day after day, during all her waking hours, and sometimes during the night likewise, as regularly as the pendulum of a clock. She was afterwards seized with a convulsion of a more violent kind. This consisted in a sudden contraction of the muscles in the fore-part of the body, by which, (as she was lying on her back), the legs were tossed over her head, as we see children try to topple backwards. This violent convulsion was repeated about every ten minutes, so that, as her mother said, the whole family were wearied with attending upon her, and replacing the bed-clothes so frequently. At one time the paroxysm recurred every ten minutes for as long a period as twenty-four hours, the oscillation of the head from side to side continuing during the intervals.

The history of the case was as follows. Sarah A. had become unwell early in January, 1842. After three weeks' illness, a powerful emetic was given,which brought on violent vomiting, and also acted upon the bowels. The same night came on the singular vibration of her head, with a sort of murmuring noise from the mouth. This continued about a fortnight, and then the toppling convulsion supervened. After another week or two, Dr. Hooper of Buntingford was consulted, and prescribed turpentine, which brought away from the bowels as many as forty or fifty round worms. In a little time after the vibration of the head and the toppling convulsion began to abate, and at the end of two or three weeks they entirely ceased. It was then perceived that she had lost the use of her lower limbs, and in this state she remained, notwithstanding the employment of various remedies, until her admission into Addenbrooke's Hospital.

[The exciting cause of the movements was obviously irritation from worms. The paralysis, considered to be of an hysteric character, was treated by generous diet, aloetic purgatives, the shower bath, and compulsory exercise: in six weeks the patient was perfectly well. The following interesting examples are quoted by Dr. Paget.]

A case resembling this, in regard to the movements, is related by Mr. Robert Hunter in the 23d vol. of the Edinburgh Med. and Surg. Journal. The patient was an unmarried woman, 23 years of age. The period of her illness had been seven years, in the last six of which she had never been free from convulsions during her waking hours. Whilst lying on her back, the head was rolled from side to side on the pillow; when she lay on either side, the other side which was free to move was affected with violent vibrations. But in addition to these constant vibratory movements, she was frequently seized with a paroxysm of great violence. She sprung from her back into a sitting posture, and then the rotation became furious, involving not only her head, but the whole trunk, and being executed with immense rapidity. This continued about a minute, and was followed by a vibration of the trunk backwards and forwards, by which the head was carried rapidly forwards to her knees and backwards to the pillow, for about half a minute, when the paroxysm ceased, and left the patient greatly exhausted. There were some pain and tenderness in the uterine region. A great variety of treatment had been tried without success before the patient came under the care of Mr. Hunter. He effected a cure in the course of some weeks, by means of counter-irritation of extreme severity, with tartar-emetic ointment over the scalp and spine.

In each of these three cases the principal movement was interrupted at intervals by another of a different kind. Such, however, is far from being the general rule. A case is related by Sir Charles Bell, in which the sole disordered movement was a lateral rotation of the head, such as I have already described. The rotations were twenty-two in a minute, and continued perpetually night and day, without the intervention of any disturbing paroxysm. The patient was a girl aged 19, who had received a violent blow on the chest, followed by hæmoptysis, the treatment of which brought her very low. On this condition the unnatural motion supervened. She had deafness at the right ear, and a degree of lassitude in the right side. She remained under observation at the Middlesex Hospital for some months, her complaint being chiefly referred to her stomach. Hæmoptysis having recurred, she was repeatedly bled, and again reduced low, and became hysterical. Under this general debility the disorder abated; she was made an out patient, and in a few days after the motion ceased.

In Dr. Abercrombie's work on the Disease of the Brain and Spinal Cord, is a case, (CLVIII.), in which this rotation of the head continued day and night without cessation for three weeks, and similar attacks had recurred at intervals of a few weeks for as long a period as four years. The patient was a young lady, in whom the catamenia were irregular and scanty. The unnatural motion ceased suddenly and finally on the establishment of menstruation in a fuller and more healthy manner.

In a patient of Dr. Conolly's, this rotation of the head occurred in paroxysms, which came on many times in a day, and lasted three or four minutes, during which the head was forcibly rotated from side to side about eight times in a second. These fits were always preceded by an inordinate disposition to talk. The patient was a female of middle age, in whom the catamenia were about to cease finally. The affection yielded to cupping, leeching, and the persevering use of aloetic purgatives.

A case of great interest has been published by Dr. Calvert Holland in the Edinburgh Medical Journal of January 1844. The patient was a collier, twenty-eight years of age, who, after working in a pit containing bad air, became affected with much disorder of the stomach and costiveness of the bowels, lassitude, and drowsiness. After these symptoms had continued about two months, he was affected, when in a recumbent posture, with an irresistible impulse to talk, his articulation being exceedingly rapid and indistinct, and his ideas incoherent and ridiculous. He had a tendency also to stammer, and to repeat the same thing twice or thrice. He was conscious of the irresistible tendency to talk, and of the absurdity of his remarks, but was unable to prevent either. His reason, nevertheless, being undisturbed. After these symptoms had continued a short time, his head began to turn rapidly from shoulder to shoulder, and he suffered about four of these paroxysms of rotation of the head every day. The movement was extensive, and repeated twenty times in a quarter of a minute. A cure was effected in five months, chiefly by treatment of the digestive organs. Blisters were applied to the nape and behind the ears.

[The simplest cases of this kind are those of vibration of a single limb, of which Dr. Paget gives some instances. But we pass over these to quote from his concluding remarks.]

Rotation of the whole body.—Another of these strange movements is a rotation of the whole body around its axis, and this has been observed both in the standing and recumbent postures; the person in one case turning round and round like a top; in the other like a roller. Esquirol mentions the occurrence of paroxysms of the latter kind in an epileptic female at the Salpêtrière; both kinds were observed in a wonderful case related by Dr. Watt; and have been more than once noticed in certain other cases closely related to those I have already described.

Movements of Locomotion, &c.—Those other cases to which I refer are chiefly characterized by involuntary locomotion, displayed in running, jumping, dancing, &c. That the condition of the nervous system in these instances bears some resemblance to that which gives rise to the vibratory and rotatory convulsions, is indicated not only by the general resemblance of the symptoms, but also by the occasional observation of both phenomena in the progress of the same cases.

Nevertheless the two conditions differ materially. For while one is characterized by similar definite movements recurring in rhythmical succession, in the other the movements are of various kinds, and are mostly locomotive. And, whereas the rhythmical movements seem to be wholly independent of volition or any mental act, these locomotive actions are unquestionably not so. They are the consequence of an irresistible impulse, and in that sense are involuntary; but though they cannot be restrained by the will, they are manifestly in many instances subject to its direction.

I have no personal experience of these cases characterized by involuntary locomotion, having met with but one of them, and that was complicated with incipient melancholia. The number of such cases on record is more considerable than that of the vibratory and rotatory convulsions.

Observations.—It is scarcely necessary to point out the difference between the cases and ordinary chorea. Choreal movements are indefinite and irregular; the movements I have been describing were as definite and regular as if they had been strictly voluntary. There is another ground of distinction. The choreal patient has the power of restraining his convulsions for a few moments by an energetic exercise of his will. The patients whose cases have been related possessed no such power—indeed in case IV. the morbid movement was manifestly aggravated by every endeavour to restrain it.

With respect to the character of the rhythmical or recurring movements, it may be observed that they were either of one unvarying kind or of several kinds. When of one kind only, they were in some cases incessant; in others paroxysmal. When of more kinds than one, there were instances of a single predominant movement interrupted at intervals by short paroxysms of a different kind.

Thus do these movements in the manner of their occurrence resemble chorea in some cases, and epilepsy in others; while in a third class we see these two dissimilar characters associated in one and the same disorder.

I have spoken of these movements as *rhythmical* In describing the rotation of the head from side to side, most of the observers compare its regularity to the vibration of a pendulum, and many of the motions I have myself witnessed were as truly rhythmical. This is not the less interesting when we consider that two of our functions most essential to life depend for their continuance on muscular actions which are truly rhythmical; and in one of them at least (circulation) the cause of the rhythm is still exceedingly obscure. In case III. the rhythm was not perfect. and the paroxysmal movement in case II., can scarcely be said to have been rhythmical. It would seem, therefore, that the movements are more essentially characterised by their constant repetition than by rhythmical precision. They are *always recurrent*, *generally rhythmical.*

In Dr. Conolly's and Dr. C. Holland's cases, the rotation of the head was preceded by an irresistible tendency to excessive talking. This curious phenomenon has been noticed under a still more interesting form—the same word being perpetually repeated in as regular recurrence as the rhythmical movements that have been described in this paper. Dr. Bright had a patient (a girl aged 18) who incessantly repeated the words "Heigh-ho! Heigh-ho!" at regular intervals of three seconds. The affection had commenced when she was suffering from anxiety, and had lasted ten months.

Dr. Abercrombie relates the case of a young lady, who, along with some symptoms resembling chorea, was liable to paroxysms in which she screamed out the words "Echum, echum, echum!" with great rapidity. Her mind was quite entire, but she had no control over the affection, except that during the paroxysm she could change the sound when she was requested to do so, and substitute any other word that was suggested to her.

Magendie in his *Leçons sur le Systeme Nerveux*, quotes the case of a woman who was incessantly crying out "Non! non! non!" accompanying these exclamations with a movement of the head, expressive of negation No effort she could make availed to arrest the cries or movements. In all these three cases the exclamations were truly rhythmical.

The rotation of the head was accompanied by deafness or dulness of hearing in three cases out of seven, viz. in Sir C. Bell's, Dr. Calvert Holland's, and Case III. This coincidence is too frequent to be merely accidental. It acquires additional interest when we consider that a similar rotation of the head was produced by Flourens in rabbits and birds, when he divided the horizontal semicircular canals of the internal ear.

The minds of the patients were entire in all cases in which the contrary has not been expressed. The character of the observers from whom I have quoted, is a sufficient guarantee that no deception was practised upon them. In my own cases, I was at pains to satisfy myself that the disorder was not feigned.

The pathology of these cases is involved in no little obscurity. Thus much is certain, that complex co-ordinated movements could not be executed without the agency of the central nervous mass. And thus much is *à priori* probable, that the encephalon is the part of that mass principally affected. In many of the cases it was particularly noticed that the movements were attended with fatigue, a symptom which would scarcely have been present if they had been produced by spinal action, independently of the brain.

On the pathology of one class of the movements, viz. the rotations, some glimmer of light may perhaps be thrown from morbid anatomy and experiments.

In a case observed by Andral, the patient was a little girl, only twenty months old. She had no other marked symptom, but a continual swinging of the head from right to left, and from left to right. The child was carried off by diarrhœa ; and on examination of the brain, a cyst the size of a filbert, filled by ossiform concretions and a gelatinous fluid, was found in the centre of the right lobe of the cerebellum. The surrounding substance was softened, and several of the cerebral convolutions were indurated.

In a case published in the Archives Générales de Médecine for 1834, the patient, a middle-aged man, was affected with continual rotation of his head from side to side on the pillow. He died; and on examination, a pearl-like tumour, as large as a walnut, was found on the pons and adherent to the outer surface of the cerebellum.

In the 67th case published by Parent-Duchatelet, and Martinet, in their Recherches sur l'Inflammation de l'Arachnoide, arachnitis had supervened on suppressed measles in a strong man, 24 years old. On the eighth day of the attack there was swinging of the head to right and left. He died on the ninth day. On examination were found bright redness and thickening of arachnoid covering the upper surfaces of the cerebrum and cerebellum. The encephalon and spinal chord were very dense.

I have thought it right to add the last case, although the swinging of the head is mentioned in so cursory a manner, that it could scarcely have been the incessant and rhythmical movement, so surprising to other observers. In the other two cases the chief disease was seated in the cerebellum and its commissural fibres of the pons.

In the Journal de Physiologie for 1823, is a case by M. Serres, of involuntary rotation of the whole body, in which, after death, an apoplectic effusion was discovered in the right peduncle of the cerebellum.

Another case of much interest has been published by Dr. Belhomme. The patient, a woman, was 47 years of age when first attacked. Her health had suffered from a violent mental shock, and subsequently to the first attack her intellect became affected, In her attacks she rolled round and round with extreme rapidity and violence, and the movement was very long continued when she met with no obstacle. While the paroxysm lasted she was wholly insensible, her eyes were divergently squinting, the pupils dilated and immovable. The disease continued for eight years, and when at its worst the paroxysms recurred twenty times a-day. At her death exostosis at the base of the skull was found in the form of two tumours as large as filberts pressing exactly on the peduncles of the cerebellum. The exostosis on the left being the larger, that peduncle was more affected than the other. We see therefore that, in both these cases of turning of the whole body, the part of the central nervous mass affected with disease was exclusively the peduncles of the cerebellum.

From these cases the presumption naturally arises, that the oscillation of the head, and the rotation of the whole body, are caused by disorder in the cerebellum or its commissures; and the presumption is strengthened by the fact, that (as far as I know) they are the only cases in which these two morbid phenomena have been followed by *post mortem* examination.

We see, then, probable reasons for believing that the rotation of the head and rolling of the body are due to disorder within the cerebellum or its connections. But with regard to the other movements, we have little or no evidence as to their immediate cause. We only know that no regular co-ordinated movements of any degree of complexity could be produced in adult man without an action in the encephalon or some part of it.

Respecting the *remote* exciting causes we are better informed. In all the cases in which we have no reason to suspect cerebral disease, other circumstances were present, such as worms, or fæcal accumulations in the bowels, uterine irritation, &c., which are known to produce other convulsive diseases, such as epilepsy and chorea. We can have no hesitation in admitting them as exciting causes of the peculiar disorder under consideration. Indeed the successful treatment of each case depends on the discovery of its particular eccentric cause. The influence of these eccentric agencies seems to be gradual and cumulative. They may be supposed to act on the nervous centre through the nerves of the part in which the primary disease is seated. The effect of their prolonged action is to bring the nervous centre, or particular portions of it, into such a state of exalted excitability, that its natural actions ensue either spontaneously or in obedience to stimuli of infinitely less intensity than are capable of exciting them in a state of health. Thus in Dr. Abercrombie's and Mr. Hunter's cases, the convulsions were instantaneously aggravated by lightly touching the patients or their dresses,—a phenomenon resembling what we observe in tetanus.

The cases that I have distinguished as two classes, agree with each other in the nature of their remote causes, and perhaps differ only in the extent or particular portion of the nervous centres that is thrown into a state of exalted excitability.

It is truly wonderful that the same *eccentric* causes, acting *apparently* in the same manner, should be capable of exciting diseases so dissimilar as tetanus, epilepsy, chorea, and such disorders as are described in this paper.

Edinburgh Medical and Surgical Journal, Jan. 1847, *p.* 60.

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15.—CASE OF TRAUMATIC TETANUS, SUCCESSFULLY TREATED WITH TOBACCO.

By J. D. Pridie, Esq., Surgeon to the Stockton Dispensary.

[A woman received a lacerated wound of the left forearm from a large nail: it went on well for about eight days, when the granulations became flabby. In five days more, she began to have great difficulty in swallowing. The pulse was weak: and as the bowels were confined, extract of colocynth with elaterium, and sulphate of magnesia were ordered. On the next day, Nov. 4th, at ten A.M., tetanic symptoms were fully set in, the right arm only being unaffected. As the bowels had not been moved, three drops of croton oil were given. Mr. Pridie thus continues the report:]

1 P.M.—No evacuation from the bowels. The opisthotonos and the intensity of all the symptoms have increased, and during the paroxysms, which occur with intervals of about ten minutes, there is excessive difficulty of breathing, and most excruciating pain, with great increase of the muscular rigidity. Watson Alcock, Esq., and Dr. Whiteside, now visited the patient with me, and we agreed to exhibit tobacco internally. Thirty grains of leaf tobacco were infused in nine ounces of boiling water for half an hour; of which eight ounces were poured off clear, and half an ounce was ordered to be given every one, two, or three hours, according to its effect.

8 P.M.—The bowels were freely moved about seven o'clock, immediately after taking the third dose. She says the pain is less severe during the paroxysm, but otherwise no change. The sickness and exhaustion produced by the second dose was so great, that it was discontinued for three hours.

November 5*th*, 9 A.M,—Has slept about four hours at intervals. The tobacco was twice omitted during the night, on account of the excessive exhaustion which it produced. The opisthotonos is more acute, the forehead has a wrinkled appearance, and the expression of countenance is sharp and anxious; the pain, however, is less severe.

5 P.M.—The intensity of all the symptoms appears increased, and the jaws are so firmly closed, that even the extremity of the tongue cannot now be seen. To continue the medicine every four hours during the night, which can now only be swallowed by putting a small quantity at a time within the lips, and allowing it to ooze through the teeth.

November 6*th*, 10 A.M.—Immediately after taking the medicine early in the morning severe sickness and vomiting came on, which continued about three hours; since then she says that the pain has left her head and back; there is less rigidity, and the paroxysms, which are not so severe, occur at longer intervals; she speaks more distinctly, and can swallow easier. The bowels were freely moved during the night, and she had several hours of quiet sleep.

The tobacco to be increased to ℈ij ss. to the nine ounces of water, and half an ounce given as before every two or three hours.

7 P.M.—The wound and the left arm have again become painful. To have it well fomented with hot water every three hours, and the arm enveloped in a poultice of equal parts of linseed dust and oatmeal. Bowels open. To continue the medicine every four hours during the night.

November 7th, 10 A.M.—Had an uneasy night. The medicine to be continued every two hours during the day.

7 P.M.—The arm is less swollen and painful. The countenance is rather cheerful. Has taken several times to-day arrow-root and beef-tea with a portion of wine and brandy. The tobacco has now little effect in producing nausea and exhaustion. The bowels are confined. A solution of sulphate of magnesia to be taken every two hours in a cupful of barley water, and to continue the tobacco every four hours.

November 9th, 10 A.M.—Has had an uneasy night and no sleep; the pain in the head and over the spinal column and breast has returned. The jaws have again become so firmly contracted, that she speaks less distinctly than she did two or three days ago. Bowels confined. An enema of twelve grains of tobacco, infused in thirty ounces of water, was administered, which procured a full evacuation, and somewhat relieved the pain at the lower part of the back. A large mustard plaster was applied over the back, and allowed to remain on for two hours. The tobacco was now increased to ʒj. gr. x. infused in nine ounces of boiling water, and half an ounce given, as before, every one to three hours. At bed time to have a draught, with ʒij. of tinct. of opium.

November 10th, 10 A.M.—Passed a better night, and slept several hours; complains of pain only in the back part of the neck, where the plaster did not reach; over this a mustard plaster was applied.

9 P.M.—The countenance is again more cheerful, and says that she is now quite free from pain The bowels are still confined. An enema of soap and tepid water has been administered without effect, and a powder containing ten grains of calomel and the same of jalap, to be taken immediately.

[The tobacco was continued for a week longer, with occasionally full doses of opium, and drastic purgatives. From this time she improved; the treatment being ammonia, with opiates, and enemata. On the 26th November, a vesicular eruption appeared on the chest, and a fortnight afterwards she suffered from œdema of the lower extremities, but continued to improve in health and strength, and and on the 28th December had resumed her household duties. Mr. Pridie observes:]

The action of the tobacco appeared to consist chiefly in producing a most powerful depressing effect on the nervous system, which relieved, for a time, the most intense spasmodic contractions. Instances are related where recovery followed the exhibition of alcohol in this disease; and I may mention that, on one occasion, when the pain and other symptoms were very severe, a tumblerful of spirits and hot water was administered, and during the continuance

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of the exhilaration which it produced, there was a marked alleviation of the patient's sufferings, and relaxation of the muscular rigidity.

Monthly Journal of Medical Science, March 1847, *p.* 650.

16.—*On the Use of Tobacco in the Treatment of Tetanus.*—By B. Travers, Jun., Esq., Assistant-Surgeon and Lecturer on Surgery at St. Thomas's Hospital.

In forwarding the following case for publication, I think it right to intimate that I do not blindly advocate the use of tobacco in traumatic tetanus. I can confidently state, however, that I have never seen an instance wherein it failed for a time to check and mitigate the violence of the spasm; and I have now witnessed its operation in many cases.

I have to urge against the objection or argument founded upon its frequent ultimate failure, which cannot be denied, that it has succeeded in a larger proportion of instances than any other remedy ever yet tried or suggested I have seen tobacco save life in traumatic tetanus; and, in a valuable statistical notice, to be found in Mr. Blizard Curling's Treatise, we learn that of "nineteen cases in which tobacco was employed nine recovered."

Like all essentially nervous diseases, tetanus, apart from the effects of treatment, kills by exhaustion—sometimes primary, sometimes remote. A skilful surgeon knows that, after allaying spasm, he has still much to do; the triumph is but half achieved. Open bowels, appetite, and active support, are means quite as essential to the required end as repose, or the removal of a local irritant. The fatality of lock-jaw is proverbial. I have before me the particulars of seventeen cases, and I must have seen others during the past fifteen years. Of the above seventeen, twelve died, and five recovered. Of the latter, two were decidedly modified by hysterical symptoms. One, a child, was profusely salivated under the late Mr. Tyrrell in this hospital. The remaining two were treated with tobacco; and the present case constitutes, at least, the third instance of the happy operation of that herb within my own knowledge in this formidable disease.

W. S., æt. 22, of Newcastle, a fireman on board the "London Merchant" steam-boat, got his left foot entangled in the gear of the engine-pump at sea, which caused extensive laceration of integument, and commuted fracture of the two outermost metatarsal bones. Much blood was lost at the time; and the part was temporarily dressed with a balsamic application and bandage. He was admitted into Henry's Ward on the 10th of July, the accident having occurred on the 8th. He was attacked with spasm on the 20th inst. Symptoms commenced in the ordinary manner, with stiffness of the jaw, difficult mastication, epigastric tenderness, and subsequent spasm, affecting all the voluntary muscles with progressive violence.

[The patient was ordered tr. cannabis indic. ♏xx. every four hours; porter Oij; jalap cum hydrarg. ℈j. The next day the tr.

of Indian hemp was increased to ♏xxx. with wine ℥vj; eggs, arrow root, extra diet, and beer as before. On the third day ♏xl. were taken, but the patient was in no respect better. At midnight on the fourth day an enema tabaci, ʒss. ad Oss. was administered]

27th, half-past twelve A.M —Enema produced great faintness and cold sticky sweat, with faltering pulse, a relaxation of spasm, and abdominal pain; pulse 116, small. At eleven P.M. urines freely; pulse 100; great rigidity and epigastric tenderness, but no spasm.

Tetanic symptoms recurring without permanent abatement, though there were intervals of repose, the tobacco was employed as follows.—On the 28th, ʒj. ad Oj.; 29th, ditto; 30th, ʒss. ad Oss. A poultice was now applied to the sore, and subsequently plaister, which, however, was withdrawn, as causing too much irritation. 27th, tr. opii, ♏l.; beef-tea, &c. as before. 28th, cascarilla, with ammon. and hyoscyamus, was given, and subsequently withdrawn, as it seemed to provoke or rather increase the gastric irritation. 29th, calomel, gr. v. 31st, vespere, calomel gr. v.; opii. gr. jss. During the above period of four days, which was a critical time, his rest was much broken.

28.—He protruded his tongue rather better; and the pulse fell manifestly.

29.—He was better in all respects; pulse 94; urine is drawn off twice a-day as a precaution, the spasm no longer interfering with the operation.

Aug. 1st.—The jaw was more lax; mustard poultice "epigastrio," morning and evening, for half an hour; morphiæ muriat. gr. j. vespere.

2nd.—Bowels confined; water retained; is not so well; morph. gr. ½ n. et m.

3rd.—Passed a good night; no action from the bowels. ℞. Enema M. S. C. At four P.M., ℞. calomel, gr. iij.; opii, gr. j. statim. Subsequently the bowels were relieved, and he showed more disposition to take nourishment than heretofore.

4th.—I ordered him liquor opii sedativ. ♏xx.; infus. cascarill. ℥ss.; M. camphoræ, ℥ss., t. d. s. and a double dose at night, making forty minims of Battley horâ somni.

On and after the 5th he began to mend permanently, and in a marked manner.

8th —He urined freely.

13th.—He could masticate, and took nourishment greedily; bowels and bladder acting naturally and regularly; all spasm and numbness have subsided for some days; motions still stiffly and slowly performed; sweats profusely; pulse 80, and tranquil; tongue clean.

16th.—A week has elapsed since the spasm and trismus began definitively to subside. In the interval, the daily progress has been most marked and uninterrupted. The nights are tranquil, and the appetite for broth and semi-solids, with beer and wine, very great.

29.—Patient convalescent, quoad constitutional disease. The opiate had been gradually reduced to ♏x. (Battley) bis die; hodie (29) ♏x. horâ somni. Sore contracting, and healthy. The patient is rapidly acquiring flesh, and soon afterwards he left the house. The foot-stump was still granulating healthily, and nearly well.

Note.—Since the daily use of opium the bowels and bladder have regained their ordinary power and function. Prior to this time the bladder required artificial relief twice, or once at least, per diem, the fluid being scanty and high coloured. Its retention seemed always to aggravate gastric pain and abdominal tension, which were at times very great, calling for the frequent application of mustard and injections per anum, without which no action could be obtained at all at such times. A remarkable numbness of the right lower extremity supervened upon the cessation of spasm in the part; but this symptom gave way after a time under the benign action of the opiate.

Medical Gazette, Dec. 25th, 1846. *p* 1096.

17.—*Tetanus Cured by Ether.*—Etherization.—In the *Gazette des Hôpitaux* of the 30th of March, Monsieur Pertusio, surgeon of Turin, asserts that he has employed ether successfully in traumatic tetanus. Monsieur Roux has been unfortunate at Paris in an analogous case.

Extract from the Gazette des Hôpitaux.—" M. Pertusio, surgeon of the hospital of SS. Maurice-et-Lazare, at Turin, has just obtained a successful result, by the aid of etherization, in a very marked case of traumatic tetanus.

From Feb. 4th, some tetanic symptoms had been manifested in a young patient received into the wards of this physician, and on the 13th these had attained the greatest intensity. M. Pertusio conceived the idea of trying etherization, and instantly obtained complete resolution of the muscular retraction. In fact, the tetanic symptoms re-appeared as soon as the influence of the ether had ceased; but M. Pertusio immediately renewed the inhalation, and obtained, on the whole, sufficient benefit to encourage him to return to the etherization, at first, as often as six times a-day.

By degrees, the tetanic attacks becoming more feeble and less frequent, the inhalations of the ether were diminished, and at the end of a week, one single etherization was sufficient.

On the 4th of March, the patient had passed a week without experiencing the slightest tetanic symptom, although the etherization had been discontinued, and he now walked in the hall of the convalescent patients, nothing of his complaint remaining, except a slight rigidity in the abdominal muscles."—*Clinique de Marseille.*

Correspondent of Lancet, April 10, 1847, *p*. 398.

[The good effects of ether in such cases generally, will, however, be very doubtful till we know more of its exact powers. For example—in the next article, Dr. Ranking's case proves the injurious effects of it.]

18.—*Etherization in Tetanus.*—By Dr. W. H. Ranking.—[It having been suggested to try the effect of etherization in tetanus and hydrophobia, the editor of the *Lancet* observed:—" Any such trials will assuredly end in disappointment, these diseases being diseases of motion, not of sensation, &c. Upon this Dr. Ranking remarks, in a note to the editor of the *Lancet*,]

You will perhaps be pleased to learn that this opinion is strictly borne out by fact, as far as the results of a single example can be relied upon. Having recently had a very severe case of tetanus under my care, I thought that I would give the ether a trial; I found, however, what a little reflection might have taught me, that it was even worse than useless, and that the spasms were fearfully augmented by every attempt at inhalation. As the action of ether is strictly, as far as I have been able to judge, confined to the cerebral portion of the nervous system, and as the excito-motory system is known to manifest an increase of action in proportion as volition is obliterated, (witness paraplegia, decapitation, &c.) it might be predicted that diseases in which the true spinal marrow is mainly implicated would not only not be reached by the ether but would be aggravated by it.

Lancet, Jan. 30, 1847, *p.* 135.

19.—CLINICAL OBSERVATIONS ON DELIRIUM TREMENS.

By Benjamin Phillips, Esq., F.R.S, Assistant Surgeon to Westminster Hospital.

[Mr. Phillips has lately had under his care at the Westminster, Hospital, three cases of this very interesting disease, the peculiar and formidable symptoms of which induce him to believe that it is not one class of causes alone that operate in its production. Symptoms of delirium tremens usually follow wounds or injuries occasioned by accident or by surgical operation, but we do not regard such as necessarily consequent, for it may occur without wounds or even without inflammation; it may be excited by the abstraction of blood, or by any other exhausting influence. That the particular condition of the hair in those who habitually indulge in exciting fluids should also manifest itself in persons of temperate habits, is remarkable.]

This kind of delirium often commences with slight incoherence or unreasonable excitement. In some cases urgent symptoms are suddenly manifested, and from that moment there may be no order, no consequence, no justness in the ideas, in the conversation, or in the actions: there is constant confusion,—continual transposition of names, ideas, and things; there is no rest by day or by night; sometimes a single idea is fixed on the mind,—at other times it is ever changing; but in either case it usually relates to the tastes, or habits, or passions, of the patient. There is constant motion; sometimes moderate,—at other times violent. In some cases constant chattering, and (according to the character of the patient and the intensity of the delirium) menaces and vociferations. There may be flushed cheeks, straining eyes, and profuse perspiration, especially at the upper end of the body; or any of those symptoms may be absent.

A curious and very constant character in this condition is, an utter oblivion of the state which has preceded it; so that, if the ribs be fractured, the patient may sing or vociferate; if a limb be fractured, he may move it about, or even walk upon it; if an operation have been performed, he may employ himself in tearing off the dressing, or in breaking open the wound.

Any of the signs I have mentioned may be observed; but there is much variety in their combination. In all cases there is well-marked delirium; but in most instances the attention can be so fixed for a moment that a rational answer may be obtained to any question proposed. There is almost always a remarkable agitation of the muscular system, considerable cutaneous exhalation, especially over the upper part of the body, and a pulse commonly bearing no correspondence with the apparent gravity of the other symptoms, though it is often frequent. In some cases the delirium is violent, as in Harris's case; in others quiet. In some instances the patient is constantly chattering, as in Upton's case; in others he is silent, as in Tims's case. In some cases, such as Harris's, the patient cannot be kept in bed without force; in others, as in Upton's, there was no desire to get up. The greatest amount of irritability was observed in Harris's case; even when sleeping, under the influence of opium, his limbs, and even his features, were in constant motion. In Tims's case it was not so. Harris would constantly attempt to get up, and when he succeeded he would sit bolt upright on the edge of his bed. Masters, a man whom I treated some time ago, walked about, with his leg fractured, and the bone protruding. Thomas, another patient, constantly had his finger in the wound made in the operation for strangulated hernia. In their attempts to get up, patients are frequently unconscious that they are prevented from doing so by a straight-waistcoat or other restraint: they seem to think some heavy burden prevents them from getting up. With all the agitation which may be present, the face is often of its natural colour: in Upton's case it was so; in that of Harris the countenance was suffused. In some cases the eyes are very brilliant; they were so in Harris's case; in others they are haggard, and constantly rolling about. The constant action of the masseters often gives a curious expression to the face; the constant crying out soon dries the mouth; the saliva becomes very viscid, and frequent attempts are made to eject it. In each of our cases there was obstinate constipation, and the urine was in small quantity; respiration was unembarrassed, the pulse was comparatively slow, and the skin moist.

What is the real influence of intoxicating fluids in the development of the disease? Are the symptoms commonly a consequence of the action of such fluids on the nervous or mucous systems? or are they a consequence of prolonged excited vascular action produced by other causes? It is believed by some persons that mere contact of alcoholic emanations may induce the condition of the system favourable to the development of the disease; and cases are mentioned where workmen employed in close places, bottling or otherwise, have been thus affected, even when they have been strictly temperate; but all such cases must be regarded with great suspicion. At the same time, there is no reason to doubt that the system may in this way become impregnated. In a person employed in a turpentine distillery, and breathing that atmosphere, we find the urine presenting the characteristic violet odour. Still the fact remains, that the overwhelming proportion of those who suffer from delirium tremens have largely used intoxicating fluids. How they act upon the system is the question in doubt.

In the treatment of this very formidable derangement of the nervous system, a very broad rule of practice has commonly been laid down—the exhibition of opium and cathartics; and it has been said further, that, under whatever form opium is administered, it is equally efficacious,—that it should usually be given in large doses until sleep is procured, and that the nervous agitation will soon disappear. You have seen us follow that plan in the cases now in the hospital, and with the most complete success; and it is for the purpose of putting you on your guard against the universal applicability of the remedy that I have thought it desirable to offer you some observations upon the subject to-day. Every case of delirium tremens is not to be cured by opium, or we should not have nearly 250 deaths annually, in England and Wales, from this cause alone; neither would Klapp have advocated the exclusive virtues of tartar emetic, nor others that of blood-letting or cathartics.

It is true that simple uncomplicated nervous delirium,—the disease which so commonly supervenes in a person accustomed to over-stimulation, but in whom forced abstinence has decome necessary, in consequence of violent injuries or other cause,—the delirium which is often preceded by muscular debility and sleeplessness,—by weight and pain of the head, but which at other times is manifested in full activity without any evident precursory symptoms, and in which, whether mild or furious, the patient is usually able to recognise those around him,—able also to answer questions correctly, but in which the attention cannot be sustained, the patient immediately relapsing into his former condition,—and in some cases characterised by immovable silence,—in others by inexhaustible loquacity,—may exist without complication of disease of the brain or of the stomach, and it will almost always yield to opium properly administered: in some cases by the stomach,—in others by the rectum; but even in these cases its effects will usually be much more decided if associated with some stimulus. Thus, if a man has been accustomed to drink largely of malt liquor, a drachm of laudanum will act much more beneficially if taken in a pint or a pot of beer than if taken alone. A similar remark may be applied to spirituous liquors; and in other cases its effects would be most certainly enhanced if it were as soon as practicable associated with animal food.

But all cases of delirium tremens are not thus simple. To the delirium is added disorder of some important organ—the brain or the stomach, for instance, and opium is no longer an unfailing remedy. In such cases it is that the other plans of treatment to which we have alluded may be employed most beneficially, and in which a blind routine use of opium may be most objectionable, however proper it may be where the delirium is uncomplicated. If a patient's face be flushed,—if his head be painful, his pulse be hard and full, the light be offensive to his eyes, and the noise to his ears, —we shall then suspect that the brain is disordered beyond the point where delirium is manifested, and means appropriate to that condition must be employed: it will, in all probability, not yield to opium. In such a case it may be proper to associate with opium blood-letting, blistering, mercury, or tartar emetic. Again, if the tongue be deeply coated, and the bowels obstinately costive, the tartar emetic and cathartic plan would seem to be indicated.

Under ordinary circumstances, where no obvious complication exists, it is well, first, to get complete evacuations of the stomach and intestines; then the action of opium will be more decided. You should begin with a full dose, according to circumstances, two, three, four, or five grains of opium, associated or not with camphor, or other stimulant; to be followed by one and a half or two grains every second hour, until a long sleep is procured. From this sleep the patient will often awake, almost, if not altogether, convalescent. In other cases, although the improvement is considerable, the affection is not wholly subdued, and it is unsafe to intermit the opium, but it may be given in diminished doses, associated with food and stimulating fluid, until all delirium ceases; but, under any circumstances, it is well to resort to animal food and the necessary stimuli as soon as possible.

Medical Gazette, Nov. 20, 1846, *p.* 867.

20.—*On Atropine in Painful Affections of the Face.*—By W. P. Brookes, Esq., M.D., M.R.C.S.E., Surgeon to the Cheltenham General Hospital.—A few weeks back, I was called in to a lady in this town, suffering from a severe cold, accompanied with a most intense and painful affection of the right side of the face, forehead, and around the orbit of the eye. The pain continued after all the symptoms of the cold had left her, and I could not allay it with warm fomentations or other common remedies. I at last tried the application of an ointment, composed of atropine, five grains, lard, three drachms, with one drop of ottar of rose; a piece the size of a pea to be applied three times a day. The pain was allayed after the second application by day, but at night returned with as much violence as before. The remedy was continued, and after two days all pain ceased, and has not since returned. The effect of it was so marked, that I am inclined to think it will prove a most useful remedy in painful neuralgic affections.

I must also mention the marked effect it had on the pupils of the eye, in this case, after the second application of it; they were dilated to a great extent, (much more than I ever saw from any other preparation of belladonna,) and continued so for two or three days after it was discontinued.

I have since tried it in the case of a man on whom I operated for cataract in both eyes. The one in the right eye was not perfectly depressed, and rose again; (he had also lippitudo of the eyelids from a burn.) Belladonna had but little effect on this eye, (although it perfectly dilated the other,) but the ointment of atropine, three grains to two drachms, dilated it effectually. In a case of glaucoma I have now under treatment, belladonna will not increase the size of the pupil in either eye to any great extent, but the ointment does so satisfactorily.

Lancet, Jan. 30, 1847, *p* 114.

21.—*On Neuralgia Treated Endermically by Morphia.*—By Dr. GATTERE.—In a paper read before the Medical Society of Nantes, Dr. Gattere reports four cases of neuralgia, cured by the application of the acetate, or the muriate, or the sulphate of morphia to blistered surfaces. The first was a case of neuralgic pains of the breast, the mamma, and over the shoulder-blade, in a female of 62, left, as often happens, after an attack of shingles. Three blistered surfaces were produced, and about one-third of a grain of the acetate of morphia was added to the application used at each dressing. The cure was rapid, though many means of treatment had been before resorted to in vain. The second case is that of a female tormented with a very painful hemicranium. Three blistered surfaces were made on the forehead and temples, which were dressed eight times with muriate of morphia, the whole quantity used being between 3 and 4 grains of the salt. On the first dressing the pain was at once relieved, returning again to be removed at the next dressing, and so finally was subdued. The only inconvenience was a momentary acute pain at each new application. The third case was that of a female, aged 50, suffering under a sciatica, against which for a month many common remedies had been employed. Blistered surfaces were made in the course of the pain, and dressed twice a-day with about a sixth part of a grain of sulphate of morphia. Relief was obtained from the first, but was temporary, as the pain returned at the end of three hours, though less severe. The quantity of the sulphate was by degrees increased to two-thirds of a grain at each dressing, and the blistered surfaces were successively made downwards from the upper part of the thigh to the heel, where the pain at last had its principal seat. The treatment altogether extended to a month; at the end of which time the cure was complete. The application of the narcotic caused acute pain for ten or fifteen minutes, after which the neuralgic pain subsided.

The fourth case was one of dental and facial neuralgia, which yielded to a like treatment.—See *Journal de Médicine et de Chirurgie Pratiques,* Octobre 1846.

These cases seem faithfully recorded, and deserve the attention of practitioners. Some doubts may arise of the permanency of the cure, owing to the usual periodical character of neuralgia; and further, it is to be regretted that all the cases occurred in females. One thing, however, seems decided, namely, the immediate temporary relief produced. In the use of such applications, some precautions are obviously requisite, in cases of idiosyncrosies, as respects the effects of narcotics on the constitution.

Monthly Journal of Medical Science, Feb. 1847, *p.* 163.

22.—*Belladonna used Endermically, in Neuralgia and Rheumatism.*—The preparation used by Lippich consists of one part of extract of belladonna to 35 parts of mucilage of gum arabic. This mixture is spread over a blistered surface; and in one case (one of neuralgia of the cœliac plexus) the application was persevered in for 17 days. The cases besides in which he has been successful by this method are rheumatic lumbago, rheumatic cephalalgia, and thoracic rheumatism.—*Gazette Med. de Paris*, 6 Fev. 1847.

Ibid, March 8, 1847, *p.* 695.

23.—*Facial Paralysis cured by Quinine.*—[Dr. Durrant, of Ipswich, mentions a case of paralysis of the side of the face, occurring after a course of mercury, which was cured by the administration of quinine.]

Provincial Med. and Surg. Joarnal, Dec. 15, 1846, *p.* 602.

24.—FACIAL NEURALGIA TREATED BY THE INHALATION OF ETHER.

By F. Sibson, Esq , Resident Surgeon to the Nottingham General Hospital.

[It seems very probable that in some cases of neuralgia we shall find this new agent efficacious, especially " in those cases due to a reflected morbid sensation in the facial nerves excited either in the nerves of the stomach, skin, or uterus."

In several cases related by Mr. Sibson, the inhalation of ether vapour immediately relieved the pain. The first patient had been treated with carbonate of iron, and extract of belladonna, with but little relief. Mr. Sibson says,—]

On the 30th she came to the hospital, suffering from agonizing pain in the right side of the face. She inhaled the ether. In about two minutes the pain disappeared. She was quite conscious, had no agreeable or exciting sensations, but felt " rather numbed all over her." The object being merely to obliterate the pain,—not to annihilate consciousness or general sensibility,—the inhalation was discontinued. In about ten minutes, the pain, which had returned to a slight degree, was again removed by the inhalation. A few minutes after its discontinuance she felt faint. She soon recovered, and walked home an hour afterwards.

About three hours after the administration, a "feeling of jumping" came on for an instant in the left side of the face, and after supper the same side "ached and jumped" for a few minutes. Next morning she was quite free from pain.

[About a fortnight afterwards, the patient had another attack cut short in the same manner. A second patient was relieved of pain in about a minute, without being unconscious. In four other cases, unconsciousness was produced, and when the patients awoke they were free from pain. Mr. Sibson continues,]

Mr. Attenburrow, one of the surgeons of this hospital, administered ethereal inhalation in a case of anæmic hysterical neuralgia, with the effect of removing the neuralgic pain.

The above cases, in addition to a case of neuralgia, in which Mr. Lonsdale, of Bristol, treated a paroxysm successfully with ethereal inhalation, and to several cases of a like character, similarly treated by MM. Menière and Honoré, prove that the paroxysms of neuralgia can be cut short with something like certainty by the inhalation of ether. They also show that the neuralgic pain will usually not return until some time has elapsed after consciousness is restored. This period of freedom from suffering varies; on some occasions extending only over a few hours, on others over some days.

It would be irrational to expect the cure of neuralgia by the unaided means of ethereal inhalation, but we certainly possess it in the means of cutting short the paroxysms of that distressing malady, and of rendering the system more amenable to a scientific treatment directed either to the sources or the symptom of the disease. We must regard the ethereal inhalation, in fact, as the precursor and handmaid of a more enduring treatment.

We have more reason to hope for relief and benefit from its employment in those cases of neuralgia due to a reflected morbid sensation in the facial nerves, excited either in the nerves of the deranged digestive organs, skin, or uterus, than in those cases of neuralgia depending on disease of, or pressure upon, the nerve.

Neuralgia is so capricious, and in many persons so peculiarly mental a disorder, that I feel that the above cases rather indicate the course of an important inquiry, than prove that ethereal inhalation is of further value in the treatment of neuralgia than as an almost certain means of putting an end to a paroxysm.

[In those cases where general treatment was carried on in addition to the ether, permanent good was the result. Ether inhalations were tried in the case of an old man affected with sciatica. He was made unconscious: when consciousness was restored he had a rigor, and the pain returned. This was repeated several times, and the patient thought himself worse after it. Mr. Sibson observes,]

In sciatica the trunk of the nerve is affected in a more distressing manner than the extremities; while in the above cases of facial neuralgia, the extremities of the nerves were the chief seat of pain.

Sciatica is a very different disease from that kind of facial neuralgia due to reflective morbid sensation excited in the nerves either of the deranged digestive organs, skin, or uterus.

We cannot infer that because ethereal inhalation is a serviceable aid to treatment in neuralgia, that it will therefore be of service in sciatica.

The above case, though not benefitted by the ether, does not, however, prove that in other cases of sciatica ethereal inhalation may not be of value,—a point that extended observation can alone decide.

Medical Gazette, Feb 26, 1847, *p.* 358.

[These cases are confirmed by one mentioned in the Pharmaceutical Journal by Mr. Collen, who says:]

In the course of conversation on the effects of the inhalation of the vapour of ether, a lady made a statement, which I think you will agree with me is quite worth repeating through the medium of your journal. She says, that about twenty-two or three years since, she suffered severely for many months from tic douloureux, and having received little or no relief from various kinds of medical treatment, was ultimately advised by a dentist, living in Ipswich, to *apply* ether and laudanum mixed, externally, and at the same time to *inhale the vapour*, taking care to be on her bed when using it. The immediate effect was always sleep, on awaking from which she found herself free from pain. She does not remember exactly how long she made use of the remedy; but says she was soon cured entirely, and has never had another attack.—*Pharmaceutical Journal.*

Dublin Medical Press, Feb. 17, 1847, *p.* 103.

[Mr. Morgan relates a case equally successful. A robust man, æt. 72, had been subject to facial neuralgia for eighteen years, the attacks occurring every day, but being much aggravated by any derangement of the general health. During such a period of increased severity—opiates being inadmissible on account of the head-ache they occasioned,—belladonna, quinine, &c., were given without success: aconitine ointment (gr. j. ad. ʒj.) gave a little relief, but was discontinued on account of its vesicating the skin. When he was worn out by a fortnight's pain, etherization was resorted to: he took the vapour for half a minute mixed with air, and then for the same time pure. Mr. Morgan says:]

From his being somewhat nervous regarding it, and from the pressure necessarily made upon his mouth and nostrils, a violent paroxysm of tic occurred, but the ether had by this time exerted considerable influence upon him, and his ideas were somewhat confused for a few minutes. After allowing him to remain quiet for a quarter of an hour, I gave him a more efficacious dose, nearly enough to produce insensibility, to cause which he inhaled the true vapour for fifty seconds. A slight paroxysm occurred after the removal of the mouth-piece, as shown by the convulsive twitching of the side of the face affected, and by the patient (now only partially sensible) applying his hand to the part. He recovered the effects in a few minutes, was quite tranquil, and then dozed for an hour, when he was able to join his family at dinner without much suffering.

In the evening I saw him, found him better able to talk than he had been for days. He expressed himself relieved by the inhalation, saying that "his nervous system appeared soothed and in a more tranquil state."

[He subsequently continued to have his usual attacks, but it was thought that the recent aggravation of the disease was relieved.]

Medical Gazette, March 12, 1847, *p.* 477.

[Dr. Allnatt is not so sanguine in his views as to the good effects of ether in these cases. He may be right in some respects, but we cannot shut our eyes to the fact that as great relief has been obtained as after morphia, &c.

Dr. Allnatt says upon the subject:]

I would strongly advise medical practitioners not to be drawn from their propriety by the charms of this novel agent. The effects of ether, like other powerful narcotics, may blunt and deaden the sensibility for a season, and thus produce transient alleviation, but they cannot by possibility *eradicate* the malady; and I think we may safely predict that the returning power of the sentient nerves will bring with it a recurrence also of the morbid excitement.

Medical Gazette, March 19, 1847, *p.* 506.

25.—*On Valerianate of Zinc.*—[As this remedy has been extensively used in neuralgic affections, perhaps the following account of its preparation and therapeutical effects may be interesting. The account is taken from Dr. Neligan's work — "Medicines; their Uses and Modes of Administration."]

Preparation.—Take of the bruised root of valerian, two pounds; water, eight pounds; sulphuric acid, three ounces, one drachm; macerate for two days, and distil until the liquid no longer reddens bibulous paper. Let the distilled liquor be then exposed to the air for a month, at the end of which time, put it into a mattrass, with half an ounce of recently precipitated, perfectly pure, hydrated oxide of zinc, and digest for from eight to ten hours on a sand-bath, heated to 176° F., stirring occasionally. Filter the warm liquor, evaporate it to three-fourths of its volume, pour into porcelain capsules, and expose to the heat of a stove until crystals are formed, which are to be dried with filtering paper.—Brun Buisson.

Therapeutical Effects.—Valerianate of zinc is a tonic anti-spasmodic of much power, and as such is peculiarly adapted for the treatment of neuralgic affections, which are so generally dependent on loss of tone in the system. It has been found especially useful in the treatment of facial neuralgia and vertigo; but I have seen it prove equally beneficial in most of the Protean forms of hysterical neuralgia. In short, I look on it as one of the most valuable modern additions to the materia medica; and I fully agree with the observations of Devay, that the chemical combination proves much more beneficial than the oil of valerian and oxide of zinc prescribed altogether.

Dose and Mode of Administration.—The dose of it is from three-fourths of a grain to one grain twice or three times a-day; it may be prescribed in the form of a pill made with a little mucilage or conserve of red roses, or in a solution in orange-flower water, or in distilled water flavoured with syrup of orange-flowers. The compounder must bear in mind that the crystals of valerianate of zinc do not dissolve readily in cold water, floating on the surface in consequence of their lightness; they should, therefore, be first incorporated with a few drops of water in a mortar.

Incompatibles.—All acids; the solid carbonates; most metallic salts; and astringent vegetable infusions or decoctions."

Lancet, March 6, 1847, *p.* 257.

26.—*Facial Neuralgia from Uterine Disease.*—By Dr. E. B. MAINWARING, Bournemouth.—[The following interesting case shews how powerfully an affection of the uterus may act on distant nerves.

Dr. Mainwaring's patient had become afflicted soon after her marriage, with dysmenorrhœa, which was accompanied by an eruption of painful boils. When the latter disappeared, she was attacked with pain in the face and jaw, for which she had several teeth extracted, and took iron, arsenic, &c., at intervals during five years, without benefit. At the end of that time the affected side of the face (the left) appeared swollen and more pallid than the right; the outer canthus of the eye was drawn down, and the saliva escaped from the angle of the mouth.

Dr. Mainwaring was led by the history of the case to suspect ulceration of the os uteri, and requested an examination. When this was allowed, he says:]

On exposing the os and cervix uteri to view, I perceived a large ulcer, of the size of a crown-piece, or larger, extending over the os, and penetrating into the cavity of the uterus. The ulcer bled at the slightest touch, and was covered with a dirty-coloured matter. Under these circumstances, I recommended entire rest in bed, an unstimulating but nutritious diet, gentle aperient medicine when required, vaginal injections of lukewarm water, and the nitrate of silver well rubbed over the whole surface of the ulcer. This plan was pursued for about three weeks, without the least impression being made upon the ulcer by the free use of the caustic, or any mitigation of the symptoms. I now resolved to apply the acid nitrate of mercury pretty freely. On the third day following the application, the ulcer presented a more healthy aspect, and the patient stated that the pain in the face was much easier, in fact, that she had had some comfortable sleep, and that she felt altogether relieved. In eight days after the first application of the acid, I made a second, three days after which the pain in the face had entirely ceased, and has not returned up to the present time, and the ulcer began to heal rapidly, my patient gaining flesh and strength daily. Thus we went on for nearly a month, when on a sudden she was seized with a most agonizing pain in the region of the uterus and its appendages, with tenderness over the lower part of the abdomen. On my arrival, I found her prostrate and faint, with a cold clammy skin, and the pulse small and quick. Under these circumstances, I gave her some brandy and laudanum, and directed that hot fomentations should be applied to the abdomen. On examining the womb with the speculum, I found the ulcer progressing favourably, and an absence of heat or other inflammatory appearance. On questioning her after she had rallied, I was told that it was about the period of her menses; that the pain came on without premonition; and that up to the time of this attack she had been going on most favourably; that unless she had taken cold on removing her bed from her room up stairs to a sitting-room below, she could not account for the attack. The pain having subsided in half an hour, I left her, directing that a draught, composed of castor-oil, compound tincture of senna, and mint water, of each half an ounce, should be given early in the morning; and to use, in the meantime, warm emollient anodyne injections per vaginam.

On my visit next morning, I found the patient much better; the draught had operated well, and much offensive matter removed from the bowels. As she complained of being exhausted after this attack, I ordered her the iodide of iron, in the form of syrup, twenty drops, three times a-day, in water; an aperient pill at night, composed of two grains of the extract of aloes, one grain of the extract of hyoscyamus, and one grain of gum mastich, with the view of keeping the bowels gently open; and if faintness came on, a draught, composed of one drachm of compound spirits of ammonia, one drachm of ether, and a little mint water; also to continue the use of the injections. No appearance of the catamenial discharge; ulcer going on well.

On the third day from the first attack, she was again suddenly seized with agonizing pain, which more particularly attacked the right side of the uterus, and extended to the right groin—this attack being accompanied by flushed face, heat of skin, and increased vigour of the pulse. Six leeches were applied to the painful part immediately, and she was directed to sit in a hot hip-bath for an hour after the leeches had dropped off. To take also one ounce of the following mixture until relieved:—Sesquicarbonate of soda, one drachm; camphor mixture, six ounces; sedative liquor of opium, one drachm and a-half; hydrocyanic acid, twelve minims. Mix. In the evening I found my patient better; pain almost gone; leeches had bled freely. As the bowels had not been relieved during the day, a stimulating enema of turpentine and castor-oil was administered.

The next morning I found her better; bowels had been well opened; but as the tongue was furred, and the pain not quite gone, she was directed to take another castor-oil draught as before, and to apply poppy-head fomentations to the painful part. Five P.M.: better. To have calomel, three grains; opium, one grain, in a pill at bed-time, and the castor-oil draught repeated in the morning. In the night, she was again seized with violent pain in the region of the uterus; but was much relieved, ere I arrived, by her neighbour giving her some brandy and laudanum, which, she said, gave her some relief. At this visit, my patient expressed herself as without hope of recovery, declaring that she must die, as she could not bear her sufferings; in fact, she was quite desponding and hysterical. As these feelings were, probably, the effect of the brandy and laudanum, I cheered her, and gave her every encouragement to persevere, directing that the brandy and opium might be used again, if violent pain returned.

The next day I found her better, but still suffering from pain; and as there was tenderness on pressure, six leeches were applied to the cervix uteri; to be followed by the hot hip-bath for an hour. Bowels were open. To take one grain of blue pill, with three of conium, in a pill, three times a-day, and to continue the emollient injections. The ulcer healing kindly.

The next day, the pain returned as violent as before, without any apparent cause, when the same means were had recourse to, with the addition of cupping to the loins; and thus we went on for six weeks, the pain returning more or less often during that time. In the meanwhile, leeches, cupping, narcotics, stimulants, hot baths, alteratives, injections of conium and poppy-head decoctions, opium suppositories, &c., were had recourse to, with various effect; but nothing permanently effective. During this period, the ulcer on the cervix had healed, and the menstrual discharge had returned in somewhat increased quantity, but still scanty. The pain in the back and loins was much relieved, and the bladder performed its functions naturally and comfortably. All leucorrhœal discharge had ceased, and the paroxysms of pain were less frequent and less intense; but as there remained some hardness and thickening of the neck of the uterus, the part was well painted with tincture of iodine every three or four days. In a fortnight, the pains had quite left her, and the uterus had regained, in a great degree, its natural appearance and softness. During her convalescence, I suggested a change of air, and in consequence, she went to her friends in Cornwall. After an absence of nearly three months, she returned as "well and hearty as ever she was," (to use her own expression): her appearance corroborated her words. The eye and cheek had regained their natural appearance, and she appeared cheerful and happy. She remains free from pain up to this time.

In passing a remark upon this case, it occurred to me, after my first examination of the uterus, that the cause of the painful affection of the face was the foul ulcer on the cervix uteri; and in consequence, I did not feel anxious to give her medicine, arguing, that as pregnancy frequently caused a painful affection of the teeth and face, so in this instance the presence of so large an ulcer on the womb might be the sympathetic cause of the tic doloureux, and that by healing the ulcer, the pain in the face would be removed also: the result is most satisfactory. For the painful affection of the uterus during the healing of the ulcer, I cannot offer any explanation further than by stating, that as the discharge diminished from the ulcerated surface, congestion of the surrounding parts commenced. That congestion existed at that time there is not any doubt, the relief being so marked after the application of the leeches and the cupping; yet the violence of the paroxysms would induce me to believe that there were other causes existing. Perhaps some twig of a nerve from the ganglionic plexus at the cervix got either exposed, or implicated in the cicatriz during the healing process; certainly the pain was too brief and too agonizing to be merely the result of inflammatory congestion. The question is not easily solved.

Lancet, Feb. **13, 1847,** ***p.*** **170.**

27.—*Bisulphuret of Carbon in Sciatica.*—By Dr. Berg, Viborg.—A countryman who, for five years, had suffered at times under a very painful sciatica, with commencing emaciation of the limb, loss of appetite and sleep, and against which a great variety of remedies had been employed, was at last put under alcohol of sulphur (the bisulphuret of carbon), used both internally and externally, after the method of Wutzer. At the end of five days there was complete removal.—*In "Zeitschrift für die Gesammte Medicin." Observations of Danish Physicians, communicated by Professor Otto.*

Though the alcohol of sulphur or bisulphuret of carbon, has been known for about fifty years, yet it has seldom been put to any medical use. From the Memoir of Lampadius, it appears to have been internally employed with advantage in rheumatism, chronic gout, palsy, and cutaneous eruptions, and externally against burns: the latter use being dependent on its energetic property of producing cold.

Monthly Journal of Med. Science, March **1847,** ***p.*** **694.**

28.—*Case of Paraplegia from Ascarides.*—[In the proceedings of the Ipswich Medical Society, there is recorded the case of a child, twelve months old, which was attacked with sudden loss of power in the lower extremities. while the sensibility of those parts was exhausted. After purgatives had been given without advantage, the administration of sesquioxide given was followed by the expulsion of a "firm ball of ascarides," and the relief of all the symptoms.]

Prov. Med. and Surg. Journal, Dec. **16, 1846,** ***p.*** **602.**

29.—ON EPILEPSY.

By Dr. Branson, Sheffield.

[In a paper read at the Sheffield Medical Society, Dr. B. attempts to explain the cause of a fit of epilepsy in a somewhat novel manner. He says:]

From the known character of the remedies most successfully employed in the treatment of epilepsy, astringent tonics, of which nitrate of silver is the foremost, he was led to infer the nature of epilepsy: that relaxation of the capillary vessels of the brain is an important element in the production of a paroxysm of epilepsy; and to the statement made by Dr. Watson, "that it is not easy to conceive that the congestion could so suddenly arise, and subside again, (as it must sometimes do if it be the immediate determining cause of the fit), within the space of a single minute for example," he opposed the phenomenon of blushing, in which the capillaries can suddenly relax and almost as suddenly regain their tone, and he thought that a similar action might take place in the capillaries of the brain, causing pressure upon the surrounding nervous substance, thereby giving rise to the epileptic paroxysm. But upon what this relaxation itself depends, and how the nervous energy which ordinarily supports and keeps up the tone of the vessels, becomes suddenly impaired or exhausted, will probably remain an unsolved problem.

Prov. Med. and Surg. Journal, Nov. 18, 1846, *p.* 554.

30.--*On Secondary Epilepsy and Apoplexy in Children.*--By James Milman Coley, M.D., Licentiate of the Royal College of Physicians, and Physician to the Western Dispensary.—One of the most frequent effects of infantile cholera is convulsion of the muscles of the extremities, accompanied with more or less suspension of the functions of the brain and interruption to the process of inspiration. We find during the paroxysm in general, a remarkable dilatation of the pupils, a pallid and contracted appearance of the face, and a comparatively cold state of the skin, which is succeeded by temporary warmth and copious perspiration, the results of continued involuntary muscular action. This epileptic attack is usually preceded some hours by a shrill scream, and when this occurs, a convulsion of the adducent muscles of the eyes, constituting squinting, succeeds, and the case is apt to terminate in apoplexy. As the cerebral disease advances from a state of congestion to that of inflammation, effusion of serum, accompanied with symptoms of apoplexy, follows. The convulsion of the voluntary muscles is now interrupted by stupor and insensibility, and the sphincter muscles, and those of deglutition, become paralysed. Stertorous and irregular respiration follows, and the capillary circulation partaking of the general enervation, animal heat is no longer generated, and the surface becomes inanimate and cold, and is covered with universal exudation.

In the commencement of these cerebral diseases succeeding cholera in infants, the symptoms are liable to be mistaken for what is commonly called congestion of the brain; and much time may be lost by such an erroneous diagnosis; and this the more to be apprehended, in consequence of the attention of the profession having been of late particularly directed to disturbance in the circulation of the brain as a primary cause of vomiting. The opportunity of giving relief and affording the patient a chance of recovery, is also too frequently lost by the prejudices of the public and the profession with respect to dentition, and the dangerous attempts which have lately been made to refer all the disturbances in the functions of the brain and nerves to simple *irritation*. With respect to dentition, the circumstance of the attack commencing with symptoms of cholera is sufficient to shew that the stomach and upper portion of the intestines are the organs primarily affected. In the diseases under consideration, the origin of the cerebro-spinal disease is in the mucous membrane of some part of the duodenum or the upper portion of the jejunum. The most inflamed state of the gums accompanying dentition never produces either vomiting or purging, which will be found to proceed invariably from a congested or inflamed state of the duodenal or jejunal mucous membrane. The effect of simple irritation is transitory; but when it is long continued from any cause, first active congestion, and afterwards inflammation follow.

Epilepsy produced at first by the presence of worms in the small intestines, occasioning temporary vascular congestion in the brain, will be found ultimately to be perpetuated by some organic mischief in that organ. A young gentleman subject to epilepsy, produced by the irritation of a tape-worm inhabiting the intestinal canal, became, after repeated attacks, permanently blind, from effusion of serum compressing the optic thalamus. Those who suppose that the impression conveyed by the nerves of sensation to the cerebro-spinal centres is productive only of a transitory impulse, unconnected with a corresponding vascular excitement, entirely lose sight of the effects of sudden metastasis of disease from one organ to another, and the manifest disorganization resulting from what to them appears to consist only of a functional derangement produced by what they denominate irritation or sympathy. Such a doctrine as this in the present age of empiricism is calculated to revive the exploded pathology which suggested the exhibitions of musk, assafœtida, castor, and opium, and hurried thousands of children to an untimely grave.

The secondary disease, to which I wish to call the attention of the medical practitioner, may be distinguished from primary disease in the cerebrum by the vomiting and purging with which the attack commences, and by the absence at first of vertigo and sleepiness. In those cases of congestion of the brain which commence with stupor and vertigo, and are followed by vomiting, produced in a secondary manner through the intervention of the pneumo-gastric nerves, purging is never present: the interruption to the free circulation in the brain in the first instance, and afterwards inflammation in that organ, invariably producing a torpid state of the bowels.

Treatment.—With respect to the cerebral disease which I have described, as supervening on that of the duodenum, great circumspection will be required in the use of bleeding, on account of the tendency to serous affection always observable in such cases, which the abstraction of blood and the exhibition of calomel, the ordinary means employed, appear to promote: for it must be observed that the infants most liable to secondary meningeal inflammation are those whose muscular and vascular systems are feeble, and whose capillaries are peculiarly prone, when inflamed, to relieve themselves by serous effusion; an effect which appears to be directly produced by the collapse, superinduced by loss of blood in the state of anæmia observable in those who are the subjects of this disease. When, therefore, the face remains contracted and pale, and the skin cool, it will be found the safest practice is to abstain from bleeding, and to diminish the cerebral circulation and obviate effusion by the prompt exhibition of digitalis. From numerous experiments which I have lately had an opportunity of instituting in the treatment of secondary meningitis in cachectic infants, I am inclined to believe that this medicine will be found to exercise remarkable influence in averting the fatal termination of that destructive disease. As my object at present is to attract the notice of the profession to the existence of epilepsy and apoplexy as occasional results of cholera in infants, I need not at present enter more fully upon my views with respect to the exhibition and modus operandi of digitalis. I therefore proceed to exemplify my description of these secondary diseases, by a detail of one of the cases which have occurred in my practice.

Case.—An emaciated feeble infant, 15 months old, was attacked with cholera on the 8th of last month, which was succeeded by vomiting till the 12th, when the latter symptom ceased, and was followed by a fit of violent screaming. On recovering from this attack the patient was observed to squint; each eye being convulsively drawn in a direction towards the nose. About four hours after the screaming occurred, epilepsy commenced and continued almost without interruption. At length apoplexy supervened, and terminated the life of the infant at the end of thirteen hours after the commencement of the convulsions. I was not consulted until after the fatal attack had established itself, when I found the features contracted, the face assuming a pale cadaverous aspect, and the skin covered with a cold perspiration. The pupils were widely dilated and the eyes sunk within their orbits, and the bowels rendered torpid by the cerebral disease. Leeches had been applied to the temple, and calomel and aperients and the warm bath administered in vain. It was observed that after the bleeding had commenced the convulsions diminished and the apoplexy increased; effusion having been accelerated by the collapse consequent on the loss of blood.

I suspect that the screaming of the infant and the subsequent convulsions were produced by the sudden effusion of serum compressing that important division of the brain, to which, as the distinguished pathologist, Mr. T. W. King, very truly observes, all motor nerves converge.* In acute meningitis every time an increased effusion of fluid takes place, the child expresses a shrill and distressing scream, and I apprehend that as soon as paralysis or general convulsions occur the inflammation of the arachnoid membrane will be found to have advanced to that portion of it extended over the pons varolii.

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* See a philosophical paper on the "Source of Convulsions," by T. W. King, Esq. Medical Times, Oct. 26th, 1846, p. 76.

Medical Gazette, Nov. 27th, 1846, *p.* 924.

31.—RESEARCHES ON HYSTERIA.

By Professor Schutzenberger, Strasburg.

M. Schutzenberger has recently published an interesting series of papers upon the etiology and pathology of hysteria, illustrated by several cases. We have only space to quote his conclusions, which seem to us to establish more precision in the distinction of the various causes of this distressing malady than heretofore prevailed.

1. The term "Hysteria" has historically two significations: the one symptomatical, the other etiological. 2. Under the symptomatic point of view, it is anything but a rigorously determined pathological condition, for, if all our authors proclaim the extreme variety of its phenomena, some more especially confine these particularly to more or less general convulsive attacks, while others extend them to nearly all the nervous disturbances observed in women: so that, in practice, the symptomatic and purely nominal diagnosis is often a deception, no one knowing exactly what is to be understood by hysteria. 3. Examined under the etiological aspect, hysteria is in no wise more exactly specified. If there is want of agreement as to the symptoms, there is still more in respect to their cause. Admitted only by induction, and not being generally capable of a practical diagnosis, the etiological expression of the disease possesses scarcely any scientific precision, save in appearance. 4. Under these circumstances we should absolve ourselves from a *specification more nominal than scientific*, which impedes free investigation, and study the nervous functional disturbances less as nosologists who seek out the varieties of a given and known disease, than with the independent spirit of the clinical physiologist.

5. From a first series of facts investigated in this manner it results:—A. That certain local nervous excitements, generally continuous, may become the organic cause of intermitting functional disturbances—exhibiting themselves under the form of mo e or less general convulsive attacks, with or without the loss of sensibility—without the central organs of the nervous system in general being the subjects of any permanent pathological condition. B That, among women, *excitement of the ovaries* is the most frequent cause of this kind of disturbance, producing it in a manner analogous to other reflex action. C. We recognize clinically the reality of this cause, since deep-seated pressure will induce local pain and reflex convulsive action. D. Other local irritation may produce analogous phenomena, and an attentive examination may discover such centres of irritation. E. These local irritations, capable of

propagating excitement, when simple, and especially that of the ovary, are affections of slight gravity, unless they have been long neglected, or are conjoined with incurable organic conditions. F. In practice, it is of the first consequence to determine the cause of the local nervous excitement. G. As regards the ovary, it may depend on congestion, on inflammation, on degeneration, or on a purely neuralgic condition. H. Our indications of treatment are—1, to remove the determining cause of the local excitement when it is appreciable; and 2. to directly diminish the excited condition of the nerves of the part which form the focus whence the local irritation is propagated to the system. I. The means of effecting the first of these are as various as are the causes themselves. J. Certain substances, and especially assafœtida, castor, and galbanum, seem to exert a sedative effect upon the ovarian excitability; but their employment in no-wise excludes the application of other agents derived from general therapeutics. K. The intermittent nervous excitement or convulsion demands but secondary or palliative measures, ceasing, as it does, when the local irritation is relieved: unless, indeed, under the influence of the frequent repetition of the propagated pathological condition, a morbid degree of excitability of the spinal marrow does not become *secondarily* established, and henceforth capable of being induced by simple physiological stimuli. Although this is only consecutive to simple local irritation, propagated by reflex action, it now becomes an entirely new pathological condition.

6. A second series of clinical researches authorizes the reference of a great number of functional disturbances occurring in the sensitive sphere, to a special *pathological condition*, whose material element is unknown, but which is characterized dynamically by an *exaggerated excitability* of the sensitive nerves. The term *hyperæsthesia* may be used to characterize this condition. A. We may clinically recognize the existence of this organic condition, when *physiological stimuli* or *slight causes of excitement* produce functional manifestations in the sensitive nerves which appear *spontaneous* or *exaggerated.* B. This organic condition of the nervous system is sometimes idiopathic, a part of an original constitution, or it may become developed under the influence of a neglected hygiene. In such cases, too, hygiene offers our most valuable therapeutical resources; for medicines employed with the direct view of diminishing the general excitement merely procure a temporary relief, and the treatment of local excitement can only be regarded as symptomatic and palliative. C. At other times, the morbid excitability of the sensitive nerves is the consequence and effect of *simple* or *chlorotic anœmia.* It is indeed an exaggeration which yet contains much truth, to say that chlorosis rules over the entire nervous pathology of woman— that hysteria is but a species of chlorosis, or as Sydenham expressed it, chlorosis is an hysteric affection. Here, too, we must attack the cause, and *iron* is our sovereign remedy, all attempts at directly reducing the excitement being mere palliatives.

7. A third series of cases reveals the existence of a more complex pathological condition, in which the hyperæsthesia is associated with a particular morbid condition of the spinal marrow, unknown as regards its material element, but dynamically characterized by a *pathological excitability*, in virtue of which the reflex property of the organ becomes exaggerated: so that we may with propriety term this *reflex excitability*. A. This complex condition is recognized at the bed-side by—1, characters already attributed to hyperæsthesia; 2, the existence of a greater or less number of *permanent centres of sensibility, the artificial and mechanical excitement* of which induces with facility reflex movements in the form of convulsive attacks. B. As in simple hyperæsthesia, simple or chlorotic anæmia often plays the part of cause of reflex spinal excitability; but this may also be developed suddenly, or it may be consecutive to the frequent recurrence of simple intermittent excitement, originally due to a local cause. C. In cases of this kind the multiple points of departure of the attacks only play a secondary part, and only furnish palliative indications, the importance of which is an inverse ratio to the multiplicity of the centres of peripheric excitement. D. The fundamental indication consists in fundamentally modifying the organic conditions which incessantly revive the functional disturbance; the hyperæsthesia on the one hand, and the spinal reflex excitability on the other. E. The first of these we have noticed already; but we know of no means of directly acting upon the latter. Blood-letting is usually ineffectual, may prove in many cases injurious, and is really only indicated in those exceptional examples in which the spinal excitability is connected with local congestion or general plethora. Narcotics exert no durable influence; and antispasmodics, such as valerian, assafætida, castor, &c., are not more useful. The metallic oxides and sulphate of quinine have not been sufficiently experimented upon in these special cases. The means which we have hitherto found most efficacious is the application of cold, either by means of lotions or baths. It is a plan, however, which must be employed cautiously. It is certain also that the exertion of the will may, to a certain point, triumph over this spinal excitability; so that voluntary motions *methodically* practised form one of the best means of preventing the reproduction of the reflex ones. As a principle, we may state that the reflexibility diminishes in proportion as the influence of the will over the spinal marrow is strengthened, and *vice versâ*.

It results from what has now been stated that the well-proved presence of *general excitability* renders the prognosis serious. Although a cure be not impossible, it can only result from a well-digested plan of treatment pursued for a long period.—*Gazette Medicale*, No. 43.

Medico Chirurgical Review, Jan. 7, 1847, *p*, 264.

32.—*On Hysteria.*—By M. GENDRIN.---M. Gendrin has recently addressed to the Academy of Medicine the conclusions which he has drawn from some investigations that he has made on the symptoms and therapeutics of hysterical diseases. These conclusions are summed up in the following propositions. 1st, Hysteria is not characterized by spasmodic paroxysms reproduced at intervals, but it is a continuous disease, which always presents, as well during the intervals as during the paroxysms, symptoms which sufficiently characterize it. 2dly, In all cases of hysteria, without exception, from the commencement to the termination of the affection, there exists a degree of either general or partial insensibility. In its mildest form this anæsthesia occupies only certain portions of the skin, but in its most severe degree it may affect the tegumentary surface of the body as well as the mucous membranes, so far as they are open to our means of investigation. It is not very rare for this insensibility to exist in the organs of sense, and some patients lose all consciousness of the position of their limbs and of the acts of locomotion. 3dly, The insensibility does not exist in a ratio proportioned to the intensity, frequency, or character of the paroxysms. 4thly, Most patients in the state of anæsthesia, experience more or less, at least at the moment of the paroxysm, pain, or increase of sensibility at some point, and this circumscribed hyperæsthesia is most frequently the immediate cause of the attack, and furnishes the means to bring about its termination. 5thly, Paralysis, with flaccidity or with contraction, is a very frequent symptom during the continuance of the paroxysm as well as during the intervals. This paralysis, internal or external, of the bladder, rectum, or limbs, may last for months without the slightest danger, and has given rise to many dangerous errors in diagnosis. 6thly, It is erroneous to attribute invariably to hysteria all spasmodic attacks accompanied with the sensation of the globus hystericus. There are two other forms of the attack which are very frequent, and which often coincide or alternate with hysteric suffocation; these are the paroxysms of excitement, or mania. 7thly, All those apparently marvellous peculiarities which may reasonably be admitted into the category of the accidents produced by animal magnetism, are spontaneously produced in hysteria. Thus, that insensibility which permits persons to suffer operations by the cautery or the knife, without any sense of pain, is observed in all, even the mild, forms of hysteria. 8thly, The anomalous state of the nervous energy in hysterical patients is shown by the immediate effect of medicines. Those patients who have not increased sensibility of the digestive tube can bear enormous doses of opium, from 10 to 17 grains, without any narcotic or poisonous effect. But if they do labour under this hyperæsthesia of the digestive tube, opium, in whatever way it is administered, causes vomiting, but has no narcotic effect.

A few observations lead M. G. to think that these patients can also bear large doses of digitalis and belladonna.

9thly. Of all the therapeutic agents, there is none which appears to M. G. more appropriate than opium in large doses, commencing with five grains daily, which may be gradually increased to ten or twelve, before it has any narcotic effect. As soon as it exerts its hypnotic influence, all the symptoms of hysteria diminish, and it is then necessary to lessen the dose. By this treatment, the author cured more than half of his hysterical cases.

10thly. M. G. also found sulphuric ether of much benefit in large doses; to obtain its beneficial effects, it was necessary to administer it in doses of from five drachms to an ounce daily.—*Archiv. Gen. de Med.* Sept. 1846, p. 112.

Monthly Journal of Med. Science, Jan. 1847, *p.* 547

33.—*Case of Catalepsy.*—By W. H. Crowfoot, Esq., Beccles.—[This patient was a prisoner at Beccles, and being of a sensitive mind, was very much depressed by the disgrace into which he had brought himself. One day he left off work on account of giddiness, headache, and slight epistaxis, and was found a few hours afterwards, on his bed, in a state of insensibility, with a dilated pupil, and quick weak pulse. The usual derivative treatment was adopted; and the day but one after, viz., the 17th of June, he was reported better; he was sensible, and had spoken, but still had headache, and was unwilling to speak. It was now discovered, that nine years previously he had had a similar affection, lasting several weeks. In the evening of this day, Mr. Crowfoot says,]

At noon he became insensible, when it was discovered that his upper extremities retained any position in which they were placed till they were again moved by the bystanders, but they could easily be made to assume any posture, as if made of a flexible metal, so exactly balanced were the powers of the flexor and extensor muscles. This cataleptic condition did not, however, extend to the lower extremities, as the legs, if raised, immediately fell on losing their support. The power of swallowing was now entirely suspended; the pupils were insensible to light; and the pulse varied from 80 to 120 beats in the minute.

[He was cataleptic until eleven in the forenoon of the 18th, with the interval of an hour or two; and relapsed into the same state at half-past nine in the evening. On the 19th, Mr. Crowfoot says,]

At about nine o'clock it was decided to try the effect of electro-magnetism; and wires, connected with a powerful electro-magnetic machine were applied to the right upper extremity. The first effect produced was the immediate contraction of the flexor muscles of the fore-arm, causing the hand to be clenched; this was followed by a convulsive action of the lower jaw, and an alternate and rapid protrusion and retraction of the tongue. On stopping the machine these effects immediately ceased, but the cataleptic state remained unaffected. After an interval of ten minutes the wires were re-applied, the machine put into more rapid motion, and kept in action for a longer time. The muscles of the arm first became convulsed, and then those of the jaw and tongue, next the diaphragm and intercostal muscles, occasioning most violent and irregular respiratory efforts, and rising the pulse from 60 to 140

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Students Room

beats in the minute. The left leg next became convulsed, and afterwards the right, and there seemed to be scarcely a muscle unaffected, although the wires were only applied to one upper extremity. For a time the state of the patient was really a frightful one, but soon the convulsions subsided; violent sobbing succeeded, and sensibility gradually returned, but there seemed to be a total unconsciousness of all that had passed. Some milk was now taken, and some high-coloured urine was passed, which had a specific gravity of 1 030, was acid, and slightly albuminous.

[On the evening of the 20th the cataleptic fit recurred, and the employment of electro-magnetism was followed by similar results to those above detailed. He had only one other attack, and that a slight one, up to the 26th, when he left the neighbourhood. Mr. Crowfoot remarks:]

Catalepsy appears to be nearly allied to that Protean disease, hysteria; and I should have been disposed, in a female, to have considered the early symptoms, in the above case, to be indicative of that disorder; but they soon assumed a cataleptic character. The equivocal nature of the disease, in the first instance, made the proper mode of treatment uncertain. The giddiness, headache, and bleeding from the nose, seemed to point to vascular congestion; whilst the feeble pulse, pallid countenance, and convulsive sobbing, marked its nervous character.

The electro-magnetism evidently cut short the cataleptic attacks, but the convulsive action of the muscles which it produced was, for a time, really frightful. The gentle purging, the mild diet, and the great kindness which the prisoner met with from his attendants, had probably much influence in effecting the improvement which took place in the disease before he left the jail.

Many years since I had a cataleptic patient under my care for a considerable length of time, in whom the morbid phenomena differed materially from those which occurred in the above case. The patient was a nobleman, about 30 years of age, married, and the father of a family; he had been epileptic for many years, and subject to catalepsy during the intervals between his epileptic attacks. During a cataleptic seizure, he would remain fixed as a statue, in whatever position he might happen to be, with a countenance void of expression, and with a perfect unconsciousness of all that was passing around him. At dinner I have seen the spoon, or the fork, suddenly arrested in its course, and, after a few minutes, carried to its destination, as if no interruption had taken place; but what is still more remarkable, I have often known him, in conversation, to be attacked in the middle of a sentence, when he would stop short, remain fixed for some length of time, and then resume his discourse precisely where he had left off, and apparently employ the very words which would naturally have followed those he had last used.

In this case all treatment was unavailing; he went to the continent and died abroad, but of what disease I do not remember to have heard.

Provincial Medical and Surgical Journal, Nov. 18, 1846, *p.* 517.

34.—ON CHOREA AND RHEUMATISM.

By Dr. James Begbie, Fellow of the College of Physicians, Edinburgh.

[The association of chorea with rheumatism has been noticed by various recent authors: at first it was attributed to metastatic inflammation of the membranes of the spinal cord. Dr. Copland, for instance, says that in cases where he has observed chorea associated with rheumatism, there was marked disposition to metastasis to the fibro serous membranes, "as those of the cerebro-spinal axis, and the pericardium" (Dict. Pract. Med., vol. i., p 335). More recently the affection of the pericardium has been more distinctly pointed out as the cause of the connexion of the two diseases: Dr. Bright (Med. Chir. Trans., vol. xxii. p. 15) supposing the irritation to be communicated to the spine from the pericardium, by the phrenic nerve: Dr. Babington inclining to the opinion that the ganglionic system is the medium of this communication (Guy's Hosp. Reports, vol. vi., p. 418). Dr. Burrows (Disorders of Cerebral Circulation, sect. vii.) and Dr. Watson (Lectures, vol. i., p. 644) may also be referred to upon this subject. Dr. Begbie, however, says, from the cases he has seen, and]

Calling to recollection the several cases which have been recorded elsewhere, with the purpose of illustrating the connexion of the two diseases, I cannot help coming to the conclusion that the simple and true view of their relation is to be found in the morbid condition of the blood, which is admitted to exist in the rheumatic constitution; and this explanation will apply equally to chorea occurring in individuals or families inheriting the rheumatic diathesis, to chorea occurring in connection with rheumatism, but without the cardiac complication, and to chorea associated with pericarditis, or endocarditis, or both; the inflammatory affections of the fibrous tissues, as well as the spasmodic affection of the muscles or tendons, originating in the same specific disorder of the circulating fluids. The labours of the microscope and the progress of organic chemistry, may ere long reveal to us in what this disorder consists, whether in a change of the physical or chemical relations of the blood, or in the formation of a new substance; and the discoverer may be able to demonstrate, what is now only conjecture, that these changes are produced during the process of assimilation, or accomplished in the blood-vessels themselves.

[We quote at some length Dr. Begbie's judicious observations on treatment. He remarks:]

"Acute rheumatism," says Dr. Latham, "has experienced strange things at the hands of medical men. No disease has been treated by such various and opposite methods. In illustration of this I would contrast an instructive passage of the late Dr. Hope's elaborate work on Diseases of the Heart, relative to the duration and treatment of rheumatism, with the opinions still entertained by other writers on these subjects. According to the latter, "the duration of a well marked case of acute rhueumatism, is seldom less than six weeks, often, particularly in winter, it is protracted considerably longer; or if it abate sooner, a relapse is extremely probable; the disease cannot probably be much shortened in its duration by antiphlogistic remedies, and if it were so shortened in external parts, we have good reason to think that the risk of affection of the heart would be greatly increased; and no reliance whatever can be placed on the specific power of mercury over this disease." With all deference to the able writer and accomplished physician, whose observation is thus expressed, I cannot help considering his opinions as not destitute of danger. The risk of extension of the rheumatic inflammation to the internal fibrous tissues, is increased the longer we delay employing antiphlogistic means for its removal from the external parts, and of these means, unquestionably blood-letting, followed by calomel and opium are the chief. Many, I believe, can attest the efficacy of the treatment adopted successfully in the first case detailed in these remarks, and many have had cause to regret the timid and cautious practice pursued in the two cases which follow. Blood-letting, free and early, with the assistance of calomel and opium, placed the hardy workman in a few days in a state of safety. The less decided practice in the other two issued in the extension of the disease to the heart, to overcome which, and to save life, blood-letting and mercury, were at length resorted to. Such cases are of every-day occurrence. Dr. Hope has brought the evidence of numbers in favour of the practice of blood-letting, along with calomel and opium; and his experience of the duration of rheumatism, out of 200 cases, is that the pain and swelling are greatly abated, if not almost gone within two days, and almost always within four, and that if the patient is not well in a week, it is a case of exception. He farther states, in recommendation of the plan, that it is rare to see inflammation of the heart supervene if the treatment is early commenced, that one case in twelve would be the maximum.

Rheumatism, however, cannot be regarded as an active inflammation and treated accordingly. It must rather be considered as a disease dependent on a specific morbid condition of the blood, exciting inflammatory action, particularly in the fibrous tissues; and our remedies ought to be applied with the view of lessening the amount of the circulating fluids, and altering their constitution. For this purpose moderate blood-letting and calomel combined with opium appear to be the most appropriate treatment, and I have repeatedly observed, particularly in cases which did not call for immediate loss of blood, that after persevering in the use of mercury for some days apparently without benefit, the abstraction of such a quantity as sensibly affected the pulse, has been attended with immediate and permanent benefit. I have never seen the rheumatic inflammation of the joints translated to the heart in consequence of blood-letting, and cannot but fear that the prevalent notions regarding metastasis and its connexion with this practice, have led to serious errors in the treatment of the disease. If we bear in mind that a third part or more of all those affected with acute rheumatism also suffer inflammation of the heart, and that a large number also labour under inflammation of the pleura and lungs, and not a few under alarming disorder of the brain, we shall be desirous to employ all the means in our power to overcome as quickly as possible that condition of the blood which, so long as it remains, is productive of such serious consequences to vital organs. I have often been disappointed in colchicum, and doubt its efficacy in the true fibrous rheumatism, though I have been more sensible of its therapeutic effects in the synovial variety, that form which is known under the name of rheumatic gout, and in which, purging with full doses of calomel, aided by other purgatives, so as to procure copious bilious stools, is also found useful, a plan of treatment introduced by Dr. Chambers, of London, who was also the first to point out the distinction between the fibrous and the synovial rheumatism, and the application of varying means of treatment according to the texture implicated, observations which have been well illustrated by Dr. F. Hawkins, in the Gulstonian lectures for 1826. The antimonial solution, at one period, I saw extensively employed, by my distinguished preceptor, Dr. Abercrombie, and with marked benefit; but he was in the habit of employing bloodletting early in the disease, and of combining opium with antimony on all occasions; and admitting the powerful agency of this remedy when administered alone in acute rheumatism, I am inclined to ascribe the benefit obtained, as mainly due to it.

In the treatment of chorea, I can only speak of the efficacy of one agent, having never had occasion to test the powers and properties of any other; and it deserves remark, that this remedy, so available in chorea, is scarcely less so in chronic rheumatism. Arsenic is a most valuable and powerful remedy in these, as in many other diseases, and it is much to be regretted that so many are deterred from employing it in consequence of the sickness and griping which it is apt to produce, or from a fear of its poisonous effects on the constitution. Dr. Babington, in the interesting paper to which reference has already been made, in speaking of the comparative merits of different remedies, has noticed arsenic as "the most powerful of all;" but he admits that he has been dissuaded from employing it from these considerations; other authors and practitioners have been influenced by the same views, so that its real merits are but imperfectly ascertained. Dr. Hughes, in a recent digest of a hundred cases of chorea, in which the efficacy of various modes of treatment is tried, in speaking of arsenic, considers it as slightly inferior to the other mineral tonics; but he only employed it in seven cases, two of which it cured, and with five it failed, or disagreed. In the experience of now nearly thirty years, and in a large number of cases, I have never known it fail. It has certainly in several instances disagreed, but I have not abandoned it on that account; its use has been suspended for a few days, or even a week, and resumed, perhaps, to be suspended again; but I have invariably found that the choreal jactitations have become more and more modified after every such intermission, till at last the disease has yielded entirely, and no permanent injury to the constitution has ever resulted from the employment of the remedy. In almost all cases the medicine has been withdrawn for a time, as soon as evidence of its physiological action on the system was observable, and before it could be said to have disagreed. The earliest manifestation of these effects are itching and swelling of the eyelids, redness of the conjunctiva, nausea, and uneasiness at the pit of the stomach, and particularly a peculiar white silvery appearance of the tongue, seldom accompanied with tenderness. These have invariably diminished and disappeared in the course of a few days after the mineral has been withdrawn, and no other unpleasant consequences have resulted. In the last case, which I have shortly detailed to the Society, it was remarked that the arsenic was once and again suspended; on the first occasion the patient passed for a time from under my observation to the care of Mr. Aikman, an intelligent practitioner in East Lothian, who writes in regard to her, that, "shortly after her arrival, she resumed the use of the arsenic, and continued it for about three weeks, when we were obliged to discontinue its use on the appearance of constitutional symptoms. When these subsided she again resumed the arsenic, and went on with it regularly until we were again interrupted, by the constitutional disturbance; and when it passed away, the improvement was so decided, and, up to the time of her leaving the country, so permanent, that there was no necessity for again having recourse to it." He adds, "In connexion with this case, it may be interesting to you to know that, in another instance in which I have used the arsenic, the case was as complete and permanent, though, after persevering in its use for two months, not the slightest constitutional disturbance was excited."

I may take this opportunity of stating that, after extensive trials of the arsenical solutions in periodic affections, in psoriasis, and other scaly affections of the skin, in epilepsy, and other convulsive diseases, and particularly in chronic rheumatism and chorea, I have been equally gratified by its efficacy as a powerful therapeutic agent, as by its freedom, under judicious management, from all poisonous or injurious consequences.

Monthly Journal of Medical Science, April, 1847, *p.* 740.

35.—*Treatment of Chorea, with co-existent Heart Disease.*—By Dr. R. Chambers, Physician to the Essex and Colchester Hospital.—[Dr. Chambers does not find it necessary to modify the treatment of chorea, in consequence of its complication with heart disease; provided the latter be not the more acute affection of the two. He finds gradually-increased doses of sulphate of zinc serviceable. By beginning with half a-grain and increasing it by a grain a-day, he has seen fifty-two grains taken daily, not merely with tolerance, but with advantage.]

Provincial Medical and Surgical Journal, Dec. 16, 1846, *p.* 598.

36.--*On the Efficacy of Electricity, Galvanism, Electro Magnetism, and Magneto-Electricity, in the Cure of Disease: and on the best Methods of Application.*—By M. Donovan, Esq., Dublin.—[Whether or not these agencies are, as is generally believed, identical, they appear to differ in therapeutic value. Galvanism was preferred to Electricity by Dr. Bardsley. who considered it applicable and useful in most paralytic diseases. Mr. Donovan says :]

Voltaic electricity is generally conceived to have this advantage over common electricity, that the former acts more deeply within the organs, the latter more superficially. Experiments were made at the School of Medicine in Paris on the treatment of disease by galvanism; and the commission which reported on it found reason to conclude that the effects of the Voltaic battery penetrate and affect the nervous and muscular structures more deeply than ordinary electric machines. MM. Hallé and Thillay saw a man who had the muscles of the left side of the face *paralysed*, and who had experienced no relief from the common electric shock. Having submitted to the action of a Voltaic pile of fifty elements, the poles being connected by metallic conductors with different parts of the cheek affected, all the muscles of the face became convulsed at the moment of completing the circuit, and both heat and pain were experienced. This process being every day repeated for upwards of six months, the natural state was restored.

If it be desirable to act on parts *deeply-seated* below the surface, the method of M. Sarlandiére may be adopted. Needles of steel or platinum, connected with the poles of the battery, are to be introduced, as in the process of acupuncturation, into the parts where the effect is to be produced. "This mode of applying electricity (says Bequerel) is the most efficacious of all those that have been employed, since it permits us to act directly on the diseased part, and it is also that which is most generally employed." Dr. Prösch, of Hamburgh, also bears testimony to the superior efficacy of galvanism employed in this manner, especially in neuralgic pains.

[Pouillet and Cloquet seem to have proved that acupuncture itself originates galvanic phenomena. Professor Marianini distinguishes between *idiopathic* contractions of muscles, or those produced by the immediate action of electricity upon them, and *sympathetic* contractions, or those produced through the intermediate agency of the nerves. The latter will not occur except the current be transmitted *down* the nerve:]

The following principle he deduces immediately from this distinction. When the electric current traverses any member of an animal, the two shocks will take place simultaneously if the electricity follow the direction of the nerves; but if the electricity travel in the inverse direction, idiopathic contraction only will be produced. The contractions ought, consequently, to be stronger in the first than in the second case, a result which is confirmed by experience.

If the right hand be placed in communication with the positive pole of an electromotive apparatus, the left hand with the negative pole, and if the two communications be established in such a manner that the current passes with the same facility on each side, a contraction is felt in both arms every time the circuit is closed, but much more severely in the left than in the right. If the current be passed in an inverse direction, the right arm will experience a more powerful contraction than the left.

If one hand be made to communicate with the positive pole, and one foot with the negative, the electricity will traverse the nerves in the direction of their ramification in the leg, and not in the arm; consequently, the contraction is much more powerful in the leg, where it is at once idiopathic and sympathetic, than in the arm, where it is idiopathic only. The same thing happens when electricity is made to pass from the shoulder to the hand, or from one foot to the other, or from the thigh to the foot.

This difference in the force of the shock, according as the current goes in one direction or another, is greater in the case of some individuals (chiefly paralytic persons) than of others. Professor Marianini has observed, in electrizing a man affected with hemiplegia, that in passing the current of an electromotor of eighty pairs from the hand to the shoulder, the muscles of the arm suffered a contraction scarcely sensible, although it was very strong in the same place when the current passed from the shoulder to the hand.

In some individuals affected with paraplegia the difference of contraction took place in one limb only. A woman who had lost the use of the lower extremities, and the power of extending them, in consequence of inflammation of the spinal marrow, felt her left foot contract with more force when it communicated with the negative than with the positive pole of an electromotor; but the right foot always contracted with the same force whatever pole it was in communication with. This phenomenon appeared to be caused by the loss of capability of the right limb to feel the sympathetic shock, on account of the diminished susceptibility of the nerves to the effect of the electric current which travelled in the direction of their ramifications.

The effects, peculiarly the result of the direction of the current, are thus noticed by Becquerel:—Currents (he says) which have not great intensity, vary accordingly as they travel in the direction of the nervous ramifications, or in the opposite direction; in the first case, contraction ensues; in the second, pain. Practitioners should keep this distinction in view, if they employ currents of little energy.

Ritter had observed that the positive pole augments the vital forces, whilst the negative pole diminishes them. Becquerel says, that positive electricity tends to irritate, and to give life to parts which require it, when it travels in the direction opposed to the nervous ramifications.

Richerand also has recognized the principle that we should not indifferently employ the action of the two poles, especially when we operate with simple apparatus. For example, when the object is to exalt enfeebled irritability, he advises the employment of a current proceeding from a pair of silver and zinc plates, so placed that the silver shall be nearest the origin of the nerves, and the zinc over the muscle of which we wish to arouse the dulled or totally suspended energy. In this case the current travels in the direction opposite to the nervous ramifications, and an excitement is the result. We ought to add (says Becquerel) that in general the current, when it has a certain intensity, appears to act as an excitant whatever may be its direction; nevertheless, positive electricity, when it ascends to the origin of the nerve, always produces much more pain than when it travels in a contrary course.

Some of the foregoing results coincide with the observations of Dr. Quesnel, of Stockholm, who found that the parts to which galvanism was applied became much warmer, and that the perspiration of the part was considerably increased. He observed also that the zinc pole, particularly, drew blood to the parts to which it was applied, and that bleeding at the nose, or head-ache, was frequently the consequence of its application.

The interval of time that takes place between the shocks communicated by a voltaic apparatus, no matter how transmitted, whether direct from the plates, or through the intervention of coils, is of as much importance as their strength; a rapid succession of weak shocks will, by susceptible persons, be less easily endured than much more powerful shocks given at longer intervals, and sometimes less advantageously. On this account, clock-machinery has been made use of to regulate the intervals, and such contrivances have a great advantage over rotating or vibrating electro-magnetic apparatus, which in this respect are unmanageable. M. Fabré Palaprat contrived an apparatus of this kind, and obtained marked benefit, where there was atony or *affaiblissement dans le jeu des organes*, provided there existed neither lesion nor inflammation, and also in lymphatic engorgement. The apparatus made use of is designated "balance clock" *(horloge à balancier)*, "the isochronous beats of which establish and interrupt the communication between the poles at intervals of time longer or shorter." M. Strenger, of Iver, employed machinery which gave the shock every second of time. By the continuance of this for four minutes every day, he was successful in forty recorded cases.

M. Fabré Palaprat produces, by means of galvanism, an instantaneous moxa, in the most deep-seated regions of the body, without causing appreciable lesions, except in the parts to which it is applied. For this purpose he introduces into the part affected a platinum needle, which he places in communication with one pole of a pile composed of large plates capable of producing energetic thermo-electric effects, whilst the other pole is brought into connexion with some neighbouring part of the body by means of a metallic plate. At the moment when the communication between the poles is established, the needle becomes incandescent, and burns the contiguous flesh, producing intense pain, but of very short duration. Inflammation sets in after a few days, resembling that produced by moxa; an eschar ensues, and a pipe of destroyed flesh, resembling a quill, at length falls out.

[Galvanism has been found very serviceable in diseases of the eyes. Mr. Donovan quotes several instances, and then proceeds to say:]

By directing electricity across the nerves of of the orbit, M. Magendie has effected the cure of amauroses that resisted the most powerful means which surgery could then employ, such as blisters, moxas, &c. This method ought to be more efficacious than any other, since the remedial agent acts directly on the nerves.

Dr. Grapengiesser's mode of applying galvanism in amaurosis was as follows. In order to excite the paralytic optic nerve, he endeavoured to irritate the three branches of the fifth pair by means of galvanism. A silver probe, proceeding from the silver end of the battery, is introduced into the nose by the patient himself, while the operator touches the region of the frontal nerve, previously well moistened, either without interruption or at momentary intervals,

In cases where a stronger irritation is intended, a small blister should be previously applied; and then a less number of plates will be necessary. The nose becomes excoriated by the galvanic fluid, which renders its application extremely painful, so much so as to be hardly endurable by the patient. Under such circumstances, the silver probe may be applied to the upper jaw, above the upper molar teeth, in the inside of the mouth. This, often repeated, excites a violent toothache in many patients, which obliges us to return to the first method, or to apply the silver probe externally on the cheek. It is advisable, in all cases, frequently to change the place of application. The most efficacious irritation ensues, Dr. G. conceives, on touching the cornea with the small knob of the conducting wire. This mode of application requires great caution; it provokes an abundance of tears, and sometimes occasions considerable redness of the conjunctiva, and even insupportable pain in the ear.

For applying galvanism in diseases of the auditory organs, Dr. Grapengiesser uses two silver-wire conductors, each bent at one end, exactly in the direction of the meatus auditorius, and terminating in a small knob which must be wrapped in linen. They pass through a glass tube, which is likewise provided with a small globe for preventing its entering too far into the meatus by any motion of the patient. The whole instrument should exactly correspond with the dimensions of the auditory canal; at least the knob must entirely fill it. If the knob be not covered with linen, and if the conductor be introduced without its glass sheath, the ear will be immediately excoriated, and the application must be discontinued, as the pain cannot be endured in that state. The covered knobs, being moistened, are introduced into the meatus, also moistened; the galvanic stream, running through the nerves with great rapidity, is communicated to the auditory nerve, and occasions, in some patients, the most violent sounding and tinkling in the ears. Several patients likewise complain of giddiness, but it soon passes off. Dr. G. generally allowed the action of the galvanic battery to continue for five minutes, sometimes ten, and even half an hour; but the judgment of the physician must direct this. The conductor of the zinc side, as it acts with more energy, ought to be occasionally changed to the other ear, and *vice versâ.*

Instead of a conductor in each ear, one only may be used, the other being applied to the moistened mastoid process covered with a bit of silver; or, what is better, the latter conductor may be applied to the Eustachian tube in the mouth; in which cases, the patient perceives a sensation similar to that of a series of small globules running through the ear. The only disadvantage in this excellent method is that it sometimes induces vomiting. If the silver-wire conductor be covered with glass below its knob, this tendency to vomit is very much lessened.

A statement of Dr. Grapengiesser shows what a fallacy it is to suppose that diseases of much resistance can be combatted by any but the higher powers of galuanism. A young lady, who had suffered much from "sorrow and vexation," was attacked with head-ache and difficulty of utterance. These were the forerunners of apoplexy; she was entirely deprived of her senses, remained speechless, and the right side was completely paralyzed. Her senses, were, however, restored, but she remained incapable of utterance, and paralytic. Within four years her speech and the use of her foot were recovered, but the arm continued lame; the elbow-joint was bent by a spasmodic contraction of the muscles, and the fingers were so contracted that no power was sufficient to open her hand. Whenever galvanism was applied, this stiffness of the elbow and fingers disappeared in a moment, and she could with ease stretch the fingers and the arm; but in order to produce effect *a battery of one hundred pairs was required.* After the continuance of this application for a short time, the patient recovered the use of the limb, though not so well as before.

Amongst all those who have employed galvanism as a remedy, not one declares his numerous failures with more candour than Dr. Grapengiesser.

If the electricity of one hundred pairs of plates was required in the foregoing case, it is difficult to believe that a single pair of plates, even assisted by a coil, can bring to bear on the patient such a quantity of electricity as, according to Dr. Grapengiesser, would be necessary for the cure of a paralytic limb. The shock of the coil may be rendered intolerable, it is true, but there is but one pair of plates employed in those electro-magnetic machines which are used in the present day, and perhaps this is the reason that we rarely hear of the surprising cures that were formerly effected. This is worth the notice of medical practitioners.

Dublin Quarterly Journal of Med. Science, Feb. 1847, *p.* 192.

37. — *A Description of a New Electro-Magnetic Machine, adapted so as to give a Succession of Shocks in One Direction.*—By H. LETHEBY, M.B., Lecturer on Chemistry at the London Hospital.—The ordinary galvanic machines have this disadvantage; they give a rapid succession of shocks which alternate in their direction: for example, at each vibration of the armature, or at each make and break of the primary current, a shock is produced by reason of an induced or secondary one: but it happens that these two shocks pass in opposite directions; that from the make, for instance, going one way, while that from the break goes in the other, so that in effect they just neutralise their remedial powers.

[To obviate this difficulty Dr. Letheby has suggested an ingenious contrivance which is represented by a plate, and which cannot be well understood without reference to it. It seems, however, well adapted to the purpose which Dr. Letheby has in view. He says:]

It will be always found that the break shock is felt more severely than the other, and this suggests its application to affections of the sensitive nerves; while the other may be used whenever motor action is impaired, or where the sensibility of the part is rather acute, as in the affections of the eye, &c.

Another principle to be kept in view is, to pass the current in the route of the vis nervosa, ihat is from the centre to the periphery, in motor paralysis, but from the extremities to the centres when the sensitive nerves are affected. If this important principle is not borne in mind, we cannot expect ever to do much good in the application of electricity or galvansm; indeed, there is much reason for believing that the uncertainty of their therapeutic powers may have arisen from a want of observance of this principle.

I may, perhaps, before I leave the subject, refer to the actions of the different machines at present in use. They may be divided into three kinds.

1st, Those which give a constant current and in one direction, as the common electrical machine, and the water or other compound batteries.

2dly, Those which give an intermitting current, but in one direction only, as the machine here described, the Leyden jar, and when sparks or shocks are taken from the common electrical machine.

3dly, Those which give intermitting currents, and which, moreover, alternate in their direction, passing to and fro through the body; as the common magneto-electric galvano-electric machines.

Medical Gazette, Nov. 13, 1846, *p.* 858.

38.—"*Firing,*" *as a Counter-irritant.*—By J. M'CORMACK, Esq., M.D., Donegal.—[In Retrospect, Vol. XIII, p. 42, is an interesting article by Dr. Corrigan on "Firing." The subjoined article is further illustrative of this subject.

Sciatica, lumbago, chronic rheumatism, paralysis of the deltoid muscle, neuralgia, and hysterical pains, are the diseases in which Dr. M'Cormack has found this form of counter-irritation serviceable. The first case he relates, is that of a man of very intemperate habits, which greatly aggravated the rheumatism under which he laboured. Dr. M'Cormack thus describes the case:]

On my arriving at his house, I found him in bed, not able to turn or move in the smallest degree from the agony he was suffering in the right hip, and down the leg to the toes; he was unable to close an eye the previous night; pulse quick, full, and incompressible; skin hot and dry; had not yet recovered from the effects of his previous debauch. I at once proceeded to apply the firing-iron over the hip, lumbar region, and down the course of the sciatic nerve, as far as the knee. I made about one hundred applications altogether; the effect produced was positively miraculous. I had scarcely laid down the iron, when he declared he was quite well; he turned round in the bed with the greatest ease, and bent the thigh on the hip, which before he was quite unable to do; he was able to sit up at the fire that evening, and the next day (to the astonishment of those who saw him on the previous one, as they thought, dying) he was able to go out with merely the aid of a stick. In three or four days after this, having had another drinking bout, and become exposed to wet, he came to me to have the firing reapplied. Since that period till the time of his death, which took place early in June from phthisis, he never had the slightest return of the complaint, although constantly drunk, and exposed to much cold and wet.

Case 2.—The Rev. Sir Wm. M'C——, after a very severe exposure to cold and wet, awoke the following morning with that painful affection of the muscles called "crick" in the neck. The pain was so unusually severe, and the distortion so great, that he was induced to apply for relief, having in vain tried the usual domestic remedies of hartshorn and oil, hot stupes, &c. The head was drawn down more than I ever saw in a similar case, and the slightest motion caused the most acute agony. I persuaded him, after much entreaty, to allow the application of the "firing" iron, and before I had finished the operation, (having made altogether about fifty touches) he was enabled to move the head freely in all directions; the pain entirely ceased, and the distortion was completely removed; and he was much delighted to find that he had got rid so suddenly, and with such little suffering, (as far as the operation was concerned) of so painful an affection.

Case 5.—James M——, aged forty, a pensioner, was admitted a patient to the Dispensary May 5th, 1846, suffering from a severe attack of lumbago, to which he has been a martyr for the last four or five years, so constantly occurring, that he was obliged, about a year ago, to give up his occupation as a fisherman; has worn constantly a pitch-plaster. The present attack has continued for the last seven days; he has used several applications in vain, such as warm stupes, liniments of turpentine, &c., but has got no relief; is quite worn out with pain; has lost all appetite. I proposed the

Charing Cross Hospital
Students Room

"firing," which he consented to. I applied the iron in about a hundred places along the spine, across the loins, down as far as the sacrum. It was really amusing to see the rapidity of relief in this case: but a few minutes before, he was bent double, unable to rise off the chair, and to the astonishment of the neighbours, who had crowded in to see the operation, he got up and walked about almost free from pain. In a day or two after, fearing he was getting a return of the attack, he requested me to "fire him again," which I did; and from that day to this (Nov. 16th) he has never had a day's illness from it, although for the last five years he had scarcely known a week's freedom from pain.

It would be a useless repetition to detail any more cases. I need only say, that I have practised this remedy constantly now for the last twelve months, and I can with truth affirm, with never failing success in all the diseases I have before enumerated, and also with very marked benefit and temporary success in many cases of chronic rheumatic and obscure pains of a nervous origin. Even this last day or two I have succeeded in curing a man who has been for months prevented from earning a shilling (his trade is a stonecutter) by paralysis of the deltoid muscle, and pain in the shoulder joint, very similar in its character to that in Case 6. After a single "firing" his astonishment was not less than the pleasure he felt, in being able in these pressing times to again earn his bread, and that by so apparently a simple mode of cure.

Lancet, Dec. 5, 1846, p. 612.

ORGANS OF CIRCULATION.

39.—ON THE NATURE AND TREATMENT OF INFLAMMATION.

By Dr. George Robinson, Fellow of the Medico-Chirurgical Society, and Lecturer on Forensic Medicine, at the Newcastle-on-Tyne Medical School.

[In 1843, Dr. Robinson published some experiments which he had instituted to ascertain the effect of a sudden increase in the supply of blood to a healthy organ. An account of his views will be found in Retrospect, Vol. x, pp. 88, 279, and Vol. xi, p. 77. He has since performed some additional and more conclusive experiments, respecting which he says,]

In a strong and healthy animal, the aorta, exposed by an incision passing between the left lumbar and abdominal muscles, was completely obstructed, either by a ligature or by a small spring forceps, and the kidney on the same side then removed, its vessels being previously secured. The immediate effect of these measures would necessarily be an extreme accumulation of blood in the aorta, and a greatly increased supply to the vessels of the *right* kidney, which, of course, remained in its natural position, untouched and uninjured. The results are expressed in the following table[*]:—

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[*] The four first experiments on the list are those previously published; in the second, the occlusion of the aorta was not complete.

No. of Experiment.	Weight of left kidney.	Weight of right kidney.	Difference in favour of right kidney	Condition of urine.
	Grains.	Grains.	Grains.	
1*	30	30	0	Albuminous, and contained coagula of blood
2*	35	42	7	Highly albuminous.
3*	82	112	30	Albuminous, and contained a fibrinous coagulum, and one of blood.
4*	54	85	31	Albuminous and bloody.
5	90	133	43	Stained with blood, but distinctly albuminous.
6	123	130	7	Albuminous.
7	127	158	31	Highly albuminous.
8	118	152	34	Albuminous, and contained coagula of blood and fibrine.
9	94	150	56	Highly albuminous.
10	86	84	—	Albuminous, and contained a long narrow coagulum of blood, and several smaller ones.
11	Not ascertained.			Highly albuminous.
12	Notes lost.			Contained numerous minute coagula of blood.
13	144	150	6	Highly albuminous.

When the urine is described as simply albuminous, it is to be inferred that there was no discoloration from any admixture of blood. The albuminous matters which it contained could only have been derived from the right kidney; for the left ureter was included in the same ligature with the blood-vessels of the left kidney at the time of removing that organ; and the existence of ecchymoses in the substance and on the surface of the remaining kidney, the presence of bloody and fibrinous coagula and of albuminous urine in the right ureter (as observed in Experiments 3, 7, and 9), and the fact of highly albuminous urine being, in the last-mentioned experiment, found in the right ureter, while the fluid taken from the bladder presented no albuminous impregnation, taken conjointly, render it impossible to doubt the accuracy of this statement.

These experiments, then, show that a *sudden and considerable* increase in the supply of blood to a part does occasion immediate pathological phenomena, in this respect differing materially from a slow and gradual determination of blood; and a comparison of the amount of increase in the weight of the remaining kidney with the nature of the effused matters will also prove that here, as after venous obstruction, there is no constant connection between these two circumstances; the only cause to which we can attribute the varieties noticed in the pathological effects being a difference in the degree of lateral pressure exercised by the impeded capillary blood-columns. This difference will of course mainly depend upon the activity of the circulation at the time of performing the experiment; but it is here interesting to inquire, how an increased flow of blood into a particular artery causes an unnatural amount of lateral pressure of the capillary streams supplied from that vessel. And an examination of this point is the more necessary, as it involves the solution of a pathological problem of some importance, viz., the *modus operandi* of determination of blood in inducing inflammation.

Whatever may be the action of its immediate cause, the pathological condition characterizing determination of blood is undoubtedly an unnatural accumulation of that fluid in, and consequent distension of the arteries of, a particular part or organ; the blood-columns contained within the minute porous capillaries of the affected part moving more rapidly than usual, and being therefore free from any material increase in their lateral or distending pressure. And as the facts and arguments adduced in the preceding part of this communication suffice, I think, to prove that inflammation is essentially constituted by an unnatural increase in the lateral pressure of the columns of blood, contained within the *thin permeable capillaries*, the question may be reduced to a simpler form, and we shall merely have to inquire how a certain physical derangement of the arterial circulation in a particular part or organ is enabled to produce a similar affection of the capillaries continuous with the distended arteries.

The smaller arterial ramifications, in their healthy state, oppose a constant resistance to the distending pressure of the mass of blood pent up in the large arteries, and thus preserve the capillaries from an irruption of highly compressed fluid, which, if not at once structurally injurious, would be wholly subversive of their natural functions. But when this protection is, in a certain set of vessels, removed by the yielding of the smaller arteries, and the admission into them of an increased quantity of blood, the capillaries become directly exposed to the full force of the dilating columns. And if that lateral or dilating pressure be very great, or long continued, the opposing contractility of the capillaries becomes exhausted, and the accumulated and compressed blood, forcing an entrance into the debilitated vessels, rapidly occasions the pathological phenomena characteristic of inflammation. This view at once harmonizes with and explains the fact of inflammation never supervening upon determination but when the latter disorder has been intense, frequent, or long continued. Since, then, the existence of an adequate distending force in the arterial blood-columns cannot be denied, and since the continued application of this hydraulic pressure must evidently have the effect of gradually and successively dilating the porous capillaries, and admitting into them a quantity of compressed blood, conditions which, while incompatible with the discharge of the healthy functions of those vessels, are demonstrably productive of the pathological condition constituting inflammation, it must be admitted that the occasional appearance of this latter more serious disorder, as the effect of determination of blood, is clearly explicable by, and the result of, this physical process.

Another occasional effect of determination of blood is hæmorrhage, from the rupture of some of the distended arteries. This is of course most likely to occur when the arterial coats are diseased, or when the disorder affects vessels which are naturally weak; as in the brain.

But determination of blood sometimes produces a third effect, namely, the hypertrophy of the part thus unduly supplied.

It now only remains to consider the means by which the restoration to a natural state of the vessels affected in determination of blood is accomplished; and the examination of this question will at once conduct us to the principles on which its treatment is to be conducted.

From the remarks which have been made in explaining the production of its other terminations, it is evident that the local arterial hyperæmia which constitutes this disorder can only be removed by the contraction of the affected vessels, and the resumption and maintenance of their normal calibre. The removal, then, of every circumstance which can impede this re-action, and the employment of every measure which may appear calculated to facilitate and favour it, are clearly the two great principles to be observed in the treatment of this affection.

As regards the first point, the removal, where practicable, of the exciting cause, and the diminution of the pressure of the fluid columns distending the affected vessels, are the chief ends to be attempted. The former, as a general therapeutic rule, requires no comment; on the most advantageous method of effecting the latter object a few words may not be altogether useless. Determination of blood, like inflammation, may exist *with or without* general plethora; and in the treatment of both affections a constant reference to the quantity of circulating fluid is indispensable to successful practice. When, therefore, determination of blood exists with general plethora, in addition to other remedial measures it will be found necessary to use depletion by means of blood-letting, purgation, &c., and to enforce low diet, in order to reduce and maintain at that diminished amount the *general* pressure of the arterial blood. But, on the other hand, where there is merely a *local* increase in the pressure of the arterial blood, and that referable rather to the relaxation than to the forcible dilatation of the affected vessels, the equalization of the circulation, by directing an additional quantity of blood to other and distant parts of the body, and thus diminishing the pressure upon the distended arteries, will sufficiently fulfil this indication. We accomplish this end by the use of derivatives, of which the best and most effectual, where it can with propriety be applied, is gentle and continued bodily exercise. In affections of particular organs the derivation is variously directed. Thus, in determination of blood to the head, by a half instinctive feeling the supply to the lower extremities is artificially increased. When any internal organ becomes the seat of this disorder, by warmth or other stimulants the cutaneous vessels are stimulated so as to cause their enlargement. The general principle is, to determine either to the most distant parts, or to those which, from exercising a function similar to that of the affected organ, may, by their increased activity, diminish or remove the physiological necessity for its augmented supply of blood. The practice proposed by the late Dr. Parry, of Bath, which consists in the compression of the arterial trunk leading to the seat of the determination, and which has been occasionally tried with success in this affection of the cerebral arteries, accomplishes directly what derivatives can only effect secondarily, namely, a diminution of the pressure acting upon the affected vessels. Its general impracticability is the only argument against its universal adoption.

The second indication in the treatment of this disorder is to assist the arteries as much as possible in their re-action. In most cases we can only indirectly promote this salutary effort by withdrawing the distending force; but in determination to the head the application of cold to the surface is found to exercise a direct action in favouring the contraction of the enlarged vessels. The influence of this agent is not confined to the capillaries; it is capable of diminishing the calibre of arteries of considerable size, whether immediately applied to them, or propagating its influence along the coats of the smaller vessels

I have now endeavoured to trace the morbid effects resulting from an obstruction to the blood's passage through the different parts of the circulating system.

Venous obstruction is important chiefly from its disordering the capillary circulation. And such is the admirable arrangement adopted by nature for the prevention of this occurrence, that there are very few parts in which the closure of one vein will completely arrest, or even materially disturb, the circulation through the capillaries.

The importance of these disorders of the circulation cannot be over estimated; for where they do not rapidly destroy life, they seldom fail to leave behind the material for structural change, and thus insidiously pave the way for numerous distressing and fatal maladies. In their earlier stages they are generally remediable; but the removal of the effects which result from their protracted continuance, or frequent recurrence, must ever be most difficult. Like many other diseases, their causes may be more easily removed than their effects.

Medical Gazette, Feb. 19, 1847, *p.* 313.

40.—*On Opium in Inflammation.*—By Dr. Richard Chambers, Physician to the Essex and Colchester Hospital.—We cannot, I think, rely upon opium alone in the treatment of any inflammation; we must only regard it as an adjuvant—but an essential and most invaluable one. Considered in a comprehensive sense, the value of opium depends upon its power of blunting nervous sensibility. and thus diminishing the sensation of pain. Pain exercises a double action; in some cases it exhausts vital power; in others, again, it re-acts upon the vascular system, and it keeps up inflammatory action. When we remember the extreme sensitiveness exhibited by serous membranes when in a state of inflammation, we would from this cause alone, be disposed to regard opium as more especially applicable in the treatment of inflammation when it attacks those membranes, and so it is universally found to be.

It is in peritonitis more particularly, that we are enabled to see the effects of opium, as the proximity of the brain, lungs, and heart, and the liability to co-existing inflammation in either of these organs, render opium less eligible in the treatment of inflammation affecting their serous coverings. If we were called upon to treat peritoneal inflammation, at its first onset, one venesection, followed up by a full dose of opium, as recommended by the late Dr. Armstrong, would effect a cure. As it is, however, but very seldom that we are consulted in the primary stage, we are compelled to call in the aid of mercury or antimony, to restore the equilibrium of the capillaries.

Opium only professes to relieve pain; but we must bear in mind that in many cases, if this were not done, the system would yield to the disease before either antimony or mercury could exercise a curative influence—and in all, the duration of treatment is considerably abridged by it.

The principle here contended for admits of a very general application in the treatment of diseases, but more particularly in cases of neuralgia, in which affection I have frequently found the internal administration of tonics, combined with the local application of narcotics, cure cases that had previously resisted the use of every description of tonic.

I may refer your correspondent to the last volume of the Journal, for the particulars of a case of strumous peritonitis, successfully treated by the combined use of opium and mercury. So to speak, the mercury cured the disease, but the opium saved the life. In fact both were essential to the cure, and I am in a position to state, that a more apparently hopeless case never terminated so favourably; in fact it was pronounced to be irrecoverable by two experienced medical men.

In reference to the employment of opium generally, I may remark, that the constipation which it causes renders it obnoxious to some constitutions. If this (as I believe it does,) arises from an arrest of the biliary secretions, the combination with mercury, rhubarb, or colchicum, will obviate it. In cases where any of these are not admissible, the ox gall comes to our aid; and whether it is by directly stimulating the secretion of bile, or acting as a substitute for it, there can be no question of its being able to counteract the constipating tendency of opium. But this power of causing constipation becomes available in the treatment of a very formidable disease—namely, in peritonitis from perforation of a portion of the intestinal canal; and as our object here is to arrest the action of the intestines, to enable the opening to be sealed up with organized lymph, it is evident, that to effect this object, the *uncombined* use of opium can only be relied on. Should the aid of mercury be required to combat the consequences of the inflammation, its administration must be postponed to an after period.

Provincial Medical and Surg. Journal, Dec. 9, 1846, *p.* 584.

41.—ON THE GANGLIA AND NERVES OF THE HEART.

By Robert Lee, M.D., F.R.S., &c.

[In Scarpa's engravings of the nerves of the human heart, we find only a few small filaments are represented. Mr. Swan, and also Remak in 1839, have made some remarks on this subject, showing that the heart possesses very small nerves. Dr. Lee says,—]

In the 41st and 42nd volumes of the Philosophical Transactions I have described and represented in three engravings numerous great ganglia and plexuses of nerves, which enlarge with the coats, blood-vessels, and absorbents, during pregnancy, and which return after parturition to their original condition before conception takes place. Recent dissections which I have made of the ganglia and nerves of the virgin and of the gravid uterus have enabled me not merely to confirm the accuracy of these descriptions and delineations, but to discover the still more important anatomical and physiological truth, that there are ganglia situated in the muscular substance of the uterus, and plexuses of nerves, which accompany all the arteries, veins, and absorbents, distributed throughout its walls. It is demonstrated by these dissections, that there are not only great ganglia at the neck and on the body of the uterus, but ganglia between the strata of the muscular fibres, and that the whole muscular and vascular structures of the uterus are pervaded with ganglia and nerves. If the dissections which I have made of the ganglia and nerves of the virgin uterus be compared with those of the gravid uterus, it will be seen that the nervous structures of the uterus enlarge during pregnancy upwards of seventy times.

There is still a small number of anatomists left in Great Britain, who assert that the uterus is an insensible organ, that it has no ganglia, and only a few small filaments of nerve-like sewing threads, which undergo no change during pregnancy. The exquisite sensibility and prodigious contractile powers of the uterus during parturition, they maintain, do not depend on nervous influence. The heart has been adduced as furnishing a striking example of a powerful muscular organ acting without interruption during a long series of years, though very sparingly supplied with nerves. None of these anatomists have ever dissected the nerves either of the uterus or heart, and the plates of Scarpa and of Swan have furnished the only evidence they could adduce in support of their opinion, that the substance of the heart, like that of the uterus, is nearly destitute of nerves.

I resolved to dissect with a microscope the nerves of the heart while covered with alcohol, as I had done those of the uterus. The examinations which I have made of the fœtal heart; of the heart of the child at the age of six years; of the heart of an adult in a sound state; of the human heart greatly hypertrophied, and of the heart of the ox, warrant me, I think, in drawing the following conclusions:—

1. That the blood-vessels and the muscular structure of the auricles and ventricles of the heart are endowed with numerous ganglia and plexuses of nerves, which, so far as I know, have not yet been described.

2. That these nervous structures of the heart which are distributed over its surface and throughout its walls to the lining membrane and columnæ carneæ, enlarge with the natural growth of the heart before birth, during childhood and youth, until the heart has attained its full size in the adult.

3. That the ganglia and nerves of the heart enlarge like those of the gravid uterus when the walls of the ventricles and auricles are affected with hypertrophy.

4. That the ganglia and nerves which supply the left auricle and ventricle in the natural state are more than double the size of the ganglia and nerves distributed to the right side of the heart.

Medical Gazette, Nov. 6, 1846, *p.* 791.

42.—*On Fatty Degeneration of the Heart.*—By R. H. Meade, Esq., Bradford.—In this affection, the fat globules, (or, as they appear to be, rather minute granules), are deposited within the muscular substance itself, even between the primitive fibres, whch lose their transverse striæ, and become softened to such an extent that it is difficult to detect their presence. The diseased muscular tissue has a yellowish aspect, produces grease spots when pressed upon paper, and is so friable as to be reduced by the least touch to minute molecules.

This fatty condition of the heart chiefly occurs in old persons, advanced age diminishing the activity of the skin and lungs, thus lessening the excretion of carbon from the blood, and causing an inordinate accumulation of fat upon the surface, or in the cavities of the body, and even in the substance of the different organs. Free oil has been found in some of these cases in the blood itself.

This morbid state has been more frequently found in the female than in the male sex. It has also been met with in emaciated individuals, and is sometimes associated with the fatty state of the liver so frequently found in persons dying of phthisis. Again, though the muscular substance of the heart is more commonly attenuated, and in a state of atrophy, a variety of fatty degeneration is described by Rokitanski as occurring almost exclusively in cases in which the heart is hypertrophied.

Case.—On the evening of Sunday, September 21st, 1845, I was summoned in haste to see an old gentleman, aged 88, who was stated to be dying, and, on reaching his house I found that he had expired very suddenly immediately after getting into bed, and before his servant had left the room.

He was a very strong active old man, and had walked to church (a distance of half a mile) and back again by himself on the morning of the day on which he died, and had then remarked that he felt particularly well. His servant also said that he appeared in his usual health when he went up to bed at night.

The features after death were composed, and the face was pale and exsanguine; his appearance indicating the occurrence of internal hæmorrhage. I therefore suspected that he had died from the rupture of an aneurism of the aorta. The body was examined forty hours after death; the weather being cool, decomposition had scarcely commenced. The chest was the only part opened. On cutting through the integuments, a layer of fat, three-quarters of an inch in thickness, was found covering the sternum and cartilages of the ribs; the latter, as might have been expected at his age, were completely ossified. The lungs were quite healthy, and nowhere adherent to the pleura; the pericardium was surrounded by a considerable quantity of fat, and, when opened, was found to be completely distended with blood, which had separated into serum and clot. The quantity removed would be about a pound; but it was not measured. A firm clot surrounded the back and sides of the heart. On lifting up the heart the finger at once penetrated into an opening at the lower and back part of the left ventricle, near the apex of the organ, through which the blood had escaped. On a careful examination being made, an irregular jagged wound was found, about three-quarters of an inch in length, extending in a longitudinal direction. The muscular texture of the heart in the immediate neighbourhood of the rent was so soft and altered in structure that it would not bear the pressure of the fingers, but broke down into a soft pulpy mass; and, for the space of about an inch and a half in diameter, nothing like muscular fibre could be detected. The diseased part was of a dirty yellow colour, and, at the first view, looked like softened tuberculous or purulent matter; but it was greasy to the touch, and, on close inspection, was found to consist of a fatty substance. The muscular structure had undergone what has been denominated fatty degeneration; the lower part of the ventricle in which the rent had taken place bulged out so as to form a sort of pouch; the diseased muscular structure and lining membrane of the ventricle had evidently given way before the external covering of the heart or reflected pericardium, which had thus been protruded in the form of a sac.

The heart presented no other important morbid alterations; its size, and the thickness of its walls, were natural, but it was generally loaded with fat, and the muscular texture was rather pale and flabby. The coats of the aorta were partly ossified, as were the mitral and aortic valves, but not to a degree to interfere in any considerable extent with their action.

Medical Gazette, Nov. 6, 1846, *p* 785.

43.—*On the Curability of Hypertrophy of the Heart.*—By M. Rostan.—When alluding to the case of a young woman affected with hypertrophy of the heart, M. Rostan stated that it was erroneous to suppose that this disease was beyond the resources of art. Experience has proved to him that it is radically curable in certain conditions where remedies can be tolerated, in proof of which he related the following case.

A blacksmith aged 27 years, robust, not fat, but powerfully muscular, with large shoulders, offering all the appearance of an athlete, entered some years ago, into the ward of M. Rostan, at the Hotel Dieu, with hypertrophy of the heart. This organ was of an enormous volume, raised the corresponding side of the thoracic cavity, presented extensive dulness, and all the incontestable signs of hypertrophy—dyspnœa was considerable. The occupation of this man had probably contributed, by the incessant action of the muscles of the arms and thorax, to exaggerate the hypertrophy. The patient, who possessed as much moral as physical force, was resolved to submit to any thing necessary for the cure of so serious a disorder. M. Rostan submitted him to the rigorous method of Valsalva and Albertini: repeated blood-lettings, general and local, water for drink, "bouillie" only for nutriment, and in quantity just sufficient to sustain life, and absolute immobility in bed, were the remedies employed during three months. At the end of this time the amelioration was so well marked, that in a short time the patient might be considered as cured. The physical signs of hypertrophy had, in fact, completely disappeared, the dulness of the heart was limited to an extent almost normal, and the respiration was again free, and its rhythm natural. The patient was then better nourished by degrees, and he left the clinic in the most satisfactory state. M. Rostan greatly regretted that he had never seen this man since, in order to assure himself of the persistence of the cure, but there is every reason to believe that the benefit would be durable. This is not the only case which could be cited. Laennec has observed similar instances of cure, which have been confirmed by examination of the body after death. The heart in these individuals was found shrivelled, like an apple which has been submitted to the action of an air-pump, and afterwards exposed to the air—(comparison of Laennec) This shrivelling of the surface was the consequence of the disappearance of the hypertrophy. M. Rostan himself has never verified this observation. The success of Valsalva's treatment he believes to be dependent upon the individual being robust, plethoric, tolerant of repeated blood-lettings, and possessed of courage, resolution, and patience. Thus it is not applicable to the young woman at present in the hospital, as she is thin, pale, and incapable of sustaining such a treatment.—*Annalés de Thérapeutique,* Mai 1846.

Monthly Journal of Med. Science, Dec. 1846, *p.* 463.

44.—*On Diseases simulating Hypertrophy of the Heart.*—By Dr. Latham.—Impulse of the heart, taken alone, however great and however extensive it may be, is not a sure physical sign of hypertrophy. Hypertrophy indeed cannot exist without excess of impulse, but excess of impulse can exist without hypertrophy. When the impulse of the heart is excessive, and at the same time its sounds are obtuse, muffled and indistinct, and the præcordial region presents a larger space than natural which is dull to percussion, then the signs of hypertrophy are complete. And hypertrophy so sure and unquestionable was never cured within my experience. But when the impulse of the heart is in excess, and at the same time its sounds are as loud and clear as ever, or louder and clearer still, and the whole præcordial region is quite resonant to percussion save the small space which is naturally dull, then the signs of hypertrophy are incomplete. Yet if this be enough to constitute hypertrophy, I have seen and treated it successfully in a hundred instances. But in the mean time I have not thought that I had to do with any such affection or ever claimed the least credit for curing it.

Cases of mock hypertrophy of the heart are indeed very numerous. Young persons at the prime of life are especially the subjects of it. They are often plethoric and often sedentary, and can assign the origin of their complaint to no particular time, and to no particular exciting cause. In them, the excessive action of the heart is doubtless owing to a rich and redundant blood; and the cure of their simulated hypertrophy is effected by depletion and abstinence, and the gradual exchange of indolent for active habits. These are easy cases to deal with.

Again, young persons are the subjects of it, but they are often pale and thin and dyspeptic and very sensitive, and inactive from mere debility and nervousness. In the excessive action of the heart cannot be ascribed precisely to any one thing. The stomach and the nerves and the blood itself are all disordered, and they all are sources from which injurious influences may spring up and travel to the heart; and they all have probably their share in producing the simulated hypertrophy. Being so produced, its cure can only be effected by varied methods of treatment and after a long time, and often not until the constitution has undergone some of those changes which belong to stated periods of life: these are by no means easy cases to deal with.

Again, young persons are the subjects of it, but they are often neither florid nor pale, neither too full nor too empty of blood. They have no complaint that they can tell you of, and none that you can make out, except an inordinate impulse of the heart. an impulse great enough for any amount of hypertrophy; and constantly present, and admitting of severe aggravation, and ever attended with pain, while the sounds of the heart are still loud and clear, and the præcordial region is still duly resonant.

These cases are the most difficult to deal with. Yet their treatment seems theoretically to lie within a narrow compass. There are no ailments of other organs to set right with the hope that through them you may reach the ailment of the heart. The heart itself contains within itself the sole indication of its treatment. Abate its violent impulse and all will be well. But bleeding will not abate it. Neither will all the variety of anodynes and antispasmodics. Neither will digitalis. For digitalis cannot be given long enough and largely enough for any fair hope of it as a remedy, without fearful hazard of it as a poison. In truth I know no certain medicine and no certain plan of medical treatment that will abate this impulse. But still I know that the very worst of these cases may get well. I have seen some such and watched them for a time and then have lost sight of them, and cannot tell how they have ended. And some I have seen again after the lapse of years, and found them as bad as ever; and some I have found perfectly well. In these last cases then how has the cure been wrought? Why, it has not been wrought in the way which would imply a gradual process of bringing down an overgrown structure to its natural size and dimensions. But it has been sudden and abrupt, without any strict use of appropriate means, and sometimes with an utter neglect of them.

Medico-Chirurgical Review, Jan. 1847, *p.* 47.

45.—ON HÆMORRHAGE FROM VARIOUS PARTS.

[In cases of hæmoptysis, and obstinate diarrhœa attendant upon consumption, Dr. T. Thompson has given the acetate of lead, combined with opium and vinegar, with the best results, and has never seen a tendency to the production of gangrene follow its employment. Mr. Headleard has also administered this drug in large doses for a long period, but has not known colic to result from its use. He regards the gallic acid as a valuable styptic but has found it to occasion dryness of the tongue, fauces, and the mucous surfaces.

Dr. Garrod has given the gallic acid in six and eight grain doses, and has found none of the results mentioned by Mr. Headleard.]

Dr. Oldham, in cases of uterine hæmorrhage, hæmatemesis, and hæmaturia, had found the gallic acid often act like a charm. In cases of large fungoid growths about the cervix uteri, and of passive menorrhagia, from the presence of fibrous tumours about to degenerate into polypi, when the bleeding seems to proceed from some open vein, the gallic acid was a most valuable remedy. He frequently employed it in doses of ten grains, three times a-day, without any bad effect.

Mr. Alder Fisher usually gave acetate of lead in a first dose of five grains, and subsequent doses of two grains, without any ill effects. He gave opium afterwards. Gallic acid in hæmorrhage from the uterus acted like a charm.

Medical Gazette, Dec. 4, 1846, *p.* 987.

46.—*On the Effects of Acetate of Lead and Opium in Hæmorrhagic Diathesis.*—By GEORGE HILL ADAMS, Esq., M.D.—[The following case will be read with interest. About ten years ago, Dr. Adams visited a lad suffering from hæmatemesis, which came on periodically for four or five nights in succession at about eight o'clock. A large swelling was found beside the trachea, under the sterno-cleido-mastoideus, involving a considerable amount of the neck. The symptoms were those of inflammation, and approaching abscess. Poultices were directed, and the dilute sulphuric acid given internally; but at night, a recurrence of the vomiting of blood took place to a larger extent; and the day following, Dr. A. suspected some connection between the enlarged arterial capillaries of the tumified part and the œsophagus and its mucous membrane, whereby congestion of the small vessels of that membrane, permitted the blood to ooze guttatim into the œsophagus, and so trickle down into the stomach, which from the accumulation, it was each night compelled to eject. The lad was in such an exhausted condition that Dr. A. sought the advice of a Professor of Surgery, who, however, on examination, being unable to detect anything definite, directed the adoption of the previous treatment. Dr. Adams adds:]

I then found that I must do something else, or the patient's life would very soon be lost; and I recollected the happy and almost magical effects of acet. plumbi and opium often in menorrhagia, when nothing else seemed to have any prospect of saving life; and although I then never had seen or known any of those medicines being used in any other hæmorrhage, I nevertheless concluded, that, if so good in menorrhagia, it surely would be equally potent and beneficial in hæmatemesis, and forthwith I ordered half a grain of opium, and a grain and a half of acetate of lead every hour for a couple of hours, and to be continued at intervals of two hours for that evening. The result corresponded with my most sanguine anticipations, the lad never having afterwards the slightest appearance of hæmorrhage, and the swelling rapidly disappeared. I had, of course, laid aside the warm applications.

This case I had often purposed for years to have published, for I think it was not only interesting, but the application of those medicines in such a case new and valuable. A few months since, I had a case somewhat similar, but more, if possible, indicating the hæmorrhagic diathesis, where the patient had been suffering for some time from what she feared to be rheumatic inflammation of the jaw, and some appearance of gum-boil; this was slightly scarified pretty close to the teeth, but, to our astonishment, a most profuse bleeding, after some time, commenced from this trifling scratch (and that after having all but ceased). I ordered cold bathing to the face, neck, &c., then pledgets dipped in sulph. cupri, and I even twice applied nitrate of silver, but all of no service; and without any farther delay, I ordered a few pills of acetate of lead and opium, one every hour, &c. as in former case, and reapplied a pledget saturated with solution of sulphate of copper, keeping it firmly pressed down with my own finger for nearly two hours, and directing the patient to continue the pressure some time longer, and by these means a complete arrest was put to the bleeding, and the case ended most happily.

Medical Gazette, Jan. 8, 1847, *p.* 58.

ORGANS OF RESPIRATION.

47.—ON THE RESPIRATORY FUNCTIONS.

By John Hutchinson, Esq.

[We noticed this valuable paper in our last volume (p. 60): it has since been published at length,—and we have gleaned some additional particulars of interest. For practical purposes Mr. H. directs attention to the "vital capacity" of the lungs, which is easily ascertained by the spirometer, and may be regarded as a constant quantity in healthy individuals, under the same circumstances of height, weight, and age. Of these, height is the most important. Mr. H. shows that,—]

For every inch of height (from five feet to six feet) eight additional cubic inches of air, at 60°, are given out by a forced expiration.

[By age, the "vital capacity" decreases rather more than a cubic inch for every year from thirty-five to sixty-five. The effect of weight is not so clearly determined. The "vital capacity" is determined by the mobility of the chest;—and this is in direct relation with the height of the individual, without reference to the length of the trunk, or to the depth of the chest. This mobility is not, as is generally supposed, diminished by adhesions of the pleura, even throughout their whole extent. Ordinary breathing is performed in man chiefly by the diaphragm,—in woman chiefly by the ribs: and the best way of counting the respiratory movements, is to place the hand on the abdomen. The following may be useful:]

We see the vital capacity is, on an average, 225 cubic inches; consequently we possess a power at any time of taking in this stock of fresh air, which may be considered as a reservoir to support life without breathing. Therefore, if we expel from the lungs four or five times the old reserved air which previously remained in the chest, then draw in this 225 cubic inches, or more, according to our vital capacity, and hold the breath, *it will be found we can exist upon this without discomfort* (except for the first few seconds) *three* times as long as any other way. In this way I have seen a man hold his breath two minutes, which (it is said) is the longest time the most expert pearl divers remain under water.

Medico-Chirurgical Transactions, 1846, *p.* 137.

48.—*On Cynanche Laryngœa.*—By Dr. G. Budd, F.R.S.—[Dr. Budd believes that this disease is really erysipelas, and that its not being recognized as such, is owing to its so frequently proving fatal, before it has had time to spread. In support of this, he relates in his paper read to the Medico-Chirurgical Society, five cases which have recently occurred in the London hospitals.]

These cases, the author observes, were clearly examples of the same disease; but they did not all begin exactly in the same manner. In three, the inflammation commenced in the fauces; in one, it commenced in the parotid gland; and in one, the first appearance of it was an erysipelatous blush at the angle of the lower jaw.

In all the cases the inflammation soon spread to the glottis, and produced there the same effects—namely, redness and great thickness of the epiglottis, and of the lips of the glottis, with effusion of sero-purulent fluid in the submucous cellular tissue—to such a degree as, in three of the cases, to produce almost sudden closure of the glottis, and consequent suffocation.

In three of the cases in which death occurred within a few hours after the inflammation of the glottis came on, and within twenty-four or thirty-six hours from the commencement of the malady, the inflammation had not time to spread far, and the air-tubes, and lungs, and other organs, were sound.

In the other cases, which were more protracted, the inflammation had spread down the air-tubes, and there were marks of inflammation of the chest, and an infiltration of a sero-purulent fluid in the loose cellular tissue of the neck.

The occasional connection of laryngitis with erysipelas was noticed by Dr. Cheyne in his article on laryngitis, in the Cyclopædia of Practical Medicine; and again by Mr. Wood, in a paper published in the seventeenth volume of the Medico-Chirurgical Transactions. The first person to treat expressly of it was Mr. Ryland, of Birmingham, in his work "On Diseases of the Larynx."

The author cites the facts related by Mr. Ryland, and observes that they prove conclusively that inflammation of the larynx, causing great swelling of the lips of the glottis, and infiltration of fluid in the submucous cellular tissue, and thus leading to speedy suffocation, occasionally results from the poison of erysipelas.

He considers the following circumstances favour the opinion he has expressed as to the nature of the disease.—That the inflammation spreads in the same mode as in erysipelas of the skin, presenting the deep redness and swelling, and infiltration of a serous or sero-purulent fluid, which occur in that disease; that it is more fatal than ordinary laryngitis; and that it occurs most frequently amongst the inmates of hospitals in which erysipelas prevails, and amongst such of them as are peculiarly liable to erysipelas—viz., convalescents from continued fever or eruptive fevers, and those labouring under secondary syphilitic ulcers.

Mr. Arnott, to show the erysipelatous nature of the disease under discussion, related the following cases:—A gentleman was seized with a pain in the back of the throat, attended by difficulty of swallowing. Nothing could be seen. Leeches were applied, and blood afterwards taken from the arm. The blood was buffed and cupped. He appeared better; but a few hours after was suddenly seized with dyspnœa, and died. The only disease found was inflammation of the glottis, one of the margins of which had sloughed. Four days after, his wife, who had attended him, was seized with an affection of the throat: the tonsils were enlarged. Erysipelas of the head and neck shortly afterwards developed itself. The daughter, who came from the country to see her mother, suffered from inflammation of the larynx and pharynx, and afterwards from erysipelas of the head and face. When there was infiltration of purulent matter, he believed that in these cases the operation was always fatal. We did not know what to do after the operation in these cases.

[Perhaps the best treatise on this subject is that by Mr. Nunneley, of Leeds: the reader will find the foregoing views particularly exemplified by reference to numerous cases and papers at page 99 of this excellent work.]

Medical Gazette, March 19, 1847, *p.* 518.

49.—*Pathology and Treatment of Croup.*—By — Hird, Esq.—[Mr. Hird is of opinion, that croup is a disease of an inflammatory character, although differing widely from ordinary inflammation of the mucous membranes; that it is of a truly specific character, being almost exclusively confined to children, and having a remarkable prevalence in some families more than others. In support of this view, Mr. Hird alludes to the circumstance of its recurrence, and to the membranous or albuminous exudation as depending more upon the excess of albumen and fibrine in the blood than on the acuteness and violence of the inflammatory action.]

In the treatment of croup, Mr. Hird states, that during the last four or five years he had never resorted to general blood-letting, and that he was induced to adopt this course from witnessing the unfavourable result which generally followed its use, both in his own practice, and in that of some of his professional friends. Croup he considers an inflammation of a character bearing some analogy to erysipelas, or to inflammation occurring in scrofulous individuals, which occasions the formation of a pseudo-membrane that will require for its removal a certain amount of vital energy, both in the respiratory organs and in the system generally. The inflammation of croup he believes to be less under the influence of blood-letting than healthy inflammation, and that whether it be looked upon in reference to the alteration to be expected from it on the progress of croup, or on the subsequent effects of the evacuation on the system, it will be found both unsatisfactory and dangerous.

The class of cases in which he occasionally prescribes leeches, or a cupping-glass to the chest, are those acute affections in which there is not the same disposition to the formation of a croupy membrane, and in which the larynx is affected. The inflammation, he considers, approaches more to the character of healthy inflammation, is more under the control of blood-letting, and is apt to cause effusion near the glottis, which speedily proves fatal.

In the early stage of both varieties of the disease—*i. e.* both in the ordinary tracheal disease, as well as in the more acute affection in which the larynx is affected, he gives, in the first instance, an antimonial emetic, the dose varying from a quarter of a grain to a grain, according to the age of the child. After vomiting has been produced, he orders three grains of calomel, and if necessary, repeats the dose, that the bowels may be freely acted upon. If by these measures the febrile and inflammatory symptoms are in some degree subdued, he finds the greatest benefit from the free use of the alkalies. So long, however, as the fever continues unabated, and the heart's action unsubdued, he keeps up the state of nausea with a solution of the potassio-tartrate of antimony, in doses varying from the twelfth to a quarter of a grain every half-hour or hour, until a decided check to the symptoms is produced. As a local application to the throat, he advises a flannel bag half filled with hot salt, as recommended by Mr. Kirby, of Dublin. The warm bath, and a blister between the shoulders, or on the sternum, for an hour or two, are often of great assistance. Mr. Hird considers that the alkalies act by allaying the irritation which produces the paroxysms of spasm, in the same manner as they allay the cough in hooping-cough; and that they are as valuable in promoting the absorption of the albuminous exudation thrown out in this disease as they have been proved to be by Sir B. Brodie in the removal of large fatty tumours occurring in various parts of the body. He prescribes ten or fifteen minims of the liquor potassæ every four hours, or in smaller doses more frequently repeated. At a later period of the disease, he gives the decoction of senega, combined with ipecacuanha, squills, and ammonia.

Medical Gazette, Dec. 4, 1846, *p.* 988.

50.—*Case of Tracheitis.*—By Dr. C. M. Durrant, Physician to the East Suffolk and Ipswich Hospital.—[A child under three years old was seized on the 2nd of October, with hoarseness, dry cough and great dyspnœa. On the evening of the third, when Dr. Durrant saw her, he says:]

The most prompt and energetic measures had been adopted; the trachea had been freely leeched, followed by a blister; calomel and antimony in full doses at frequently repeated intervals had been persevered in; and that most admirable plan of keeping up a constant supply of warm moist air throughout the apartment was in full operation. It was ascertained from the mother that she had lost two children from croup, but this child had been in apparently good health up to the period of seizure.

The countenance was now anxious; the skin not very hot; voice extremely feeble; cough stridulous; respirations panting and accelerated; pulse 120, small and jerking; tongue moderately clean; bowels confined; evacuations healthy; urine very high-coloured, without deposit; had been very sick from the medicine.

[The energetic treatment at first adopted, was now considered to have been carried far enough; and the calomel and antimony were therefore laid aside. Dr. Durrant continues:]

The diffusion of warm moist air to be unremittingly continued day and night; a roll of flannel dipped in boiling water to be applied as a vesicant to the throat; a saline mixture, containing the bi-carbonate and nitrate of potash, with compound tincture of camphor, was prescribed every four hours, and an improved diet of arrowroot and mutton-broth.

4th. Hot-water blister has operated favourably; dyspnœa less; cough still troublesome, with slight mucous expectoration; pulse 100, of feeble strength; respiratory murmur still inaudible throughout the left lung; louder, but yet of diminished intensity in the right; has to-day been more cheerful, and inclined to amuse herself. To continue the diffusion of moist air; to continue the medicines; and to take a tea-spoonful of port wine in arrow-root three or four times a-day.

5th. Has had a bad night, with increased dyspnœa and cough; is listless, with great disinclination to be moved; physical signs as yesterday. The hot-water blister to be re-applied to the throat; the moist air to be continued. Medicines, wine, and diet, as yesterday.

6th. In every respect better; expectorated this morning about a tablespoonful of pure pus; dyspnœa greatly diminished; cough also much less; pulse 86, of better strength; respiratory murmur still feeble, but now audible throughout both lungs; appetite improved; evacuations healthy; urine paler. Medicines, diet, and diffusion of warm moist air to be continued.

From this date the little patient rapidly recovered without an untoward symptom.

Remarks.—This case presents in summary, many features of interest, and of practical importance. Its history was that of croup; it occurred in a family, two members of which had died of that disease; its attack was sudden, and in the evening, its febrile course advanced with great rapidity, while the distinctive characters of the affection became progressively and fully developed. The auscultatory phenomena were few but important. In addition to the local signs of dyspnœa, rapid motion of the larynx, and tracheal breathing, there existed natural resonance on percussion over the entire chest. This circumstance, secondary in itself, at once became valuable in reference to auscultation, inasmuch as the stethoscope indicated almost complete exclusion of air from the left lung, while the right lung, although not fully supplied, returned throughout a normal murmur. The fact of the healthy condition of the lungs and pleura being satisfactorily established, the point for diagnosis resolved itself into ascertaining the cause of the obstruction which obtained in the left bronchus. Simple inflammatory turgescence of the mucus membrane—œdema—a firm plug of tough mucus—false membrane from secretions, or a foreign body might equally occur to obstruct the passage of air through this tube. The point, however, necessarily remained matter of conjecture, until all doubt became finally removed by the bursting of the abscess, and the sudden discharge of purulent matter, to the immediate relief of the little sufferer.

Of the diffusion of warm moist air in the treatment of pulmonary disease in children, as advocated by Dr. Golding Bird, I cannot speak too highly. In no instance have I adopted it without witnessing the most marked beneficial effects.

The vesication by hot water, was, I am convinced, from the rapidity of its operation, as also in the result produced, of great service in the above case.

From the tendency to pulmonary engorgements, and rapid debility, I believe that depressing measures may be, and frequently are, carried to too great an extent in the treatment of croup and laryngeal inflammation in children. The rapid improvement (although at first but temporary) which followed an improved diet with wine, was most marked in the case of the above little patient.

With a view to prevent spasm of the glottis, a few drops of the compound tincture of camphor were added to each dose of the mixture. This, as suggested by Dr. Bird, is also an important adjunct, spasm proving the immediate cause of sudden death in very many cases of laryngo tracheal inflammation.

Prov. Medical and Surgical Journal, Nov. 18, 1846, *p.* 540.

51.—ON BRONCHITIS.

By Dr. Thomas Laycock, Physician to the York Dispensary, and Lecturer on the Theory and Practice of Medicine.

Sometimes there is little or no expectoration during or after an attack of bronchitis; but there is a most teasing cough. In such a case an opiate is indicated, and may be safely given; but you must be very careful how you prescribe opiates in bronchitis. If the cough is excited by the mucus contained in the bronchial tubes, and not by an irritable condition of the nerves or their lining membrane, it is in nature expelling an injurious thing. The mucus *must* be got rid of somehow, and I do not know how it can be got out of the tubes except by coughing. If you give an opiate it is true that you give the natural effort a quietus, but, at the same time, you paralyse the sensory nerves. You paralyse the muscular fibres; and at last, when the mucus has accumulated to such an extent that your patient must cough or die, he cannot cough! Old people are often complaining of their violent morning cough—as soon as they awake they begin; but it is because mucus has accumulated in the bronchi during the night, and is only perceived by their mucous membrane when sleep ceases—the sentinels have been dormant. But the mucus *must* be expelled, and, therefore, the patient *must* cough. The plan in these cases is to reduce the blenorrhœa; first, by taking care that the membrane is not irritated by cold air, and then by suitable remedies. In the meanwhile preach patience to your patient, and tell him his cough is his safeguard so long as the lungs are clogged with phlegm. Sometimes mothers go to a druggist for "something for a cough" that their children had: they get oxymel of squills and syrup of poppies, give a good dose to quiet the babe at night, and in the morning send for the doctor—its cough is stopped, it is "closed in the chest," its lips become livid, and you have to repair the mischief done by the opiate.

Medical Gazette, Jan 22, 1847, *p.* 136.

52.—*On Chronic Bronchitis and Bronchial Asthma.*—By Dr. Theophilus Thompson.—[Dr. Thompson says that amongst the applicants for relief at the Hospital for consumption and diseases of the lungs, a very large proportion are affected with chronic bronchitis.]

They present themselves with respiration a little wheezing, and somewhat hurried by exertion; their complexion in some degree affected by partial deficiency of oxygen, often without pain of the chest, or acceleration of pulse, but with inspiration rather laborious and expiration prolonged. On listening to the chest, the respiratory murmur is found to be more or less extensively superseded by mucous rhonchus, commonly intermixed with the sonorous and sibilant. The sleep of such patients is usually disturbed. Those possessing much peculiar nervous susceptibility are liable to distinct paroxysms of asthma, often occurring an hour or two after retiring to rest. If you inquire how long the complaint has lasted, some will tell you many winters, others, they have never been quite right for many years. They have tried various treatments with temporary effect; but on the whole lose ground, and are unfit for active duty. The heart becomes oppressed and dilated, and they die eventually either from the supervention of acute bronchitis, or from dropsy; or if beyond the meridian of life, not unfrequently, in a few years, they become consumptive. Dr. Thompson proceeds to notice the remedial treatment recommended by authors, and to show that the results are too often unsatisfactory. Antimony given alone is not altogether useless; but it is inadequate, and may be carried to such an extent as to injure the constitution, without permanently improving the condition of the tubes. Counter-irritation, although strongly recommended, produces only temporary advantage, and superadds to a trying malady a painful annoyance. Acids check expectoration, and often occasion tightness of chest. Opiates, so often given to allay the incidental cough, not infrequently induce severe pleurodyne. The plan which Dr. Thompson first adopted, some years ago, he has, with certain modifications, very extensively employed at the Hospital for Consumption and Diseases of the Lungs, as well as in private practice, and the results have been so gratifying, as to make him anxious to communicate them to the profession It consisted mainly in establishing on the bronchial tubes, gently, but rather rapidly, the influence of mercury. Calomel is undesirable, since if given freely, it will frequently salivate, and its discontinuance be required before the bronchial condition is materially modified; but a single grain of blue pill, given thrice a day for a short period, and subsequently twice or even once daily, accomplishes the object often without producing soreness of the gums. Antimony proves a valuable auxiliary, and enables us to effect our purpose with a smaller quantity of mercury than would otherwise be requisite, and the addition of an anodyne is useful both in moderating the cough and making the stomach more tolerant of the treatment. The formula which Dr. Thompson is accustomed to employ consists of blue pill, half a scruple; antimonio-tartrate of potass, one grain; extract of conium, one scruple, divided into eight pills. The duration of treatment varies with the severity of the disease, and the susceptibility of the patient; but it is often sufficient to administer one pill thrice daily for four days, then twice daily for four days, and afterwards every night for a week. Under this treatment, the sonorous rhonchus usually disappears in a few days, or becomes audible only when the patient takes a deep inspiration, and the expectoration is rendered less tenacious and more opaque. When the breathing becomes comparatively easy, and the only rhonchus heard is the mucous, the mercurial pill may be given less frequently, and ipecacuanha, or, in debilitated subjects, compound squill pill, substituted for antimony. When all rhonchus has disappeared, some roughness of respiratory murmur is often observable, and till this is removed the mercury must not be suspended, or a relapse would be probable. An occasional purgative may be advantageously employed, and when the mercury is discontinued, iodide of potassium is often of value in establishing a healthy condition of the bronchial membrane. Dr. Thompson gives several instances of the successful employment of his plan of treatment. One, in a gentleman between 70 and 80 years of age, in whom the heart was involved, and dropsy threatened; another, in a young man, who, in consequence of chronic bronchitis, associated with peculiar nervous susceptibility, suffered from distressing paroxysms of asthma, night after night, an hour or two after retiring to rest. He did not attempt to specify all the variations of treatment which the modifications of individual cases might require, but urged that the principle of management was of wide application, aiming to substitute a curative for a palliative plan, and suggested that by changing the condition of the bronchial tubes, and rendering them tolerant even of our variable climate, it might save many individuals, now subject to bronchial attacks, every winter from the evil of annual expatriation.

Mr. Hird, as long as he recollected, had been in the habit of employing similar remedies to those mentioned by Dr. Thompson in a like class of diseases. In chronic cases he abstained from the use of antimony, and commenced the use of blue pill, in half or one grain doses, and two grains of conium. In young subjects he gave one grain of conium for a dose; and when there was a tendency to dropsical effusion, two or three grains of squill pill were added to each dose. Latterly, in addition to these remedies, he had employed dry cupping with the greatest possible advantage. In old persons, where the expectoration was free, but the body debilitated, he used a decoction of senega with ammonia.

Mr. Stedman had employed the lobelia inflata, in doses of twenty minims of the common tincture, as an antispasmodic, in cases in which there was but little expectoration. He found, that if there was much expectoration, it was checked by the lobelia.

Medical Gazette, Jan. 8th, 1847, *p.* 73.

53.—PATHOLOGICAL PROPOSITIONS RELATING TO PHTHISIS.

By Dr. Evans.

1. Phthisis is a disease characterised by a deficient force of growth, together with symptoms, both local and general, of active pulmonary congestion. 2. The preponderance of white tissues in this disease is due to a diminished force of growth, whereby the tissues generally, but the red in particular, are rendered incapable of attracting from the blood their normal quantity of aliment, and by which their power of resisting decomposing influences of external agencies is diminished. 3. The diminution of the force of growth depends upon the abstraction of natural stimuli and aliment: for example, want of heat, light, oxygen in the blood, &c., and the food being insufficient and innutritious. 4. The active pulmonary congestion depends upon the application of stimuli too violent and too prolonged, and may display itself either in the form of bronchitis, hæmoptysis, or pneumonia. 5. The symptoms of active pulmonary congestion in this case are, hectic fever, hæmoptysis, catarrh, cough, altered voice, together with derangement of the digestive and uterine functions. 6. The pathological appearances of the active pulmonary congestion are those of bronchitis, pulmonary apoplexy, or of pneumonia in the stage of engorgement. 7. The same causes which produce the symptoms of phthisis, are likewise apt to produce the secretion of what is called tubercle, an albuminous substance intermediate between coagulable lymph and pus. 8. The parts of organs that have secreted tubercle are subsequently disposed to ulcerate and suppurate, and the tubercle at the same time to soften in part into a fluid similar to pus. 9. Abscesses formed by the softening of tubercles, and the ulceration and suppuration of surrounding parts, are subject to the ordinary law of abscess, viz., burrowing to and bursting from the surface presenting the least resistance, following the least organized track in their fistulous course, cicatrizing by means of a lining membrane, &c. 10. Masses of tubercle and tuberculous cavities are generally surrounded with indurated lung substance, of a black, yellowish, or greyish colour. 11. In proportion to the amount of this induration will be the signs of impeded circulation, namely, dilatation of the right cavities of the heart, and enlargement of the

extremities of the fingers. 12. The existence of tubercles is not signalized by symptoms, nor their absence a cause of amelioration in disease. 13. The presence of tubercles never causes inflammation in the surrounding tissues. 14. The state of emaciation being a direct consequence of the diminished force of growth, and this latter being the predisposing cause of phthisis, we ought to expect emaciation, or something analogous to it, to precede in general the local signs of phthisis. 15. The lesions in phthisis most important to be kept in mind, are the deficient force of nutrition, and the local pulmonary irritation; and the symptoms of this disease, namely, the emaciation, hæmoptysis, hectic fever, cough, alteration of voice, loss of appetite, thirst, constipation, diarrhœa, amenorrhœa, &c., are all more or less the consequences of these lesions. 15. Hæmoptysis, when very profuse, may be the cause of the diminished growth and pulmonary irritation of phthisis. 17. Subacute gastritis may predispose to phthisis. 18. Excessive discharges, as diarrhœa, menorrhagia, &c., may produce diminished force of growth, and thus predispose to phthisis. 19. The suppression of menstruation in a person predisposed may produce active pulmonary congestion, and thus give rise to phthisis.—*Medico-Chirurgical Review.*

Remarks.—Some of the above remarks must be received with caution; the eleventh, for example. It has long been known as one of the most interesting facts connected with phthisis, that the obstruction to the circulation in this disease is very rarely commensurate with the degree of pulmonary induration; it is often remarkable how freely the heart acts, and how little the patient suffers from dyspnœa, in cases where the amount of tubercular degeneration known to exist might be expected to offer the most serious obstacle to the pulmonary circulation. Dr. Latham has very justly ascribed this to the diminished volume of the blood resulting from the impaired nutrition, and the profuse discharges which attend the latter stages of this disease; hence the heart and pulmonary vessels are not overloaded with their contents, and the cavities of the former organ remain small, and capable of impelling the blood with rapidity and freedom. The converse of this is sometimes observed in phthisis. Cases occur in which, from various causes, the quantity of the circulating fluids does not become diminished; here the patients suffer from lividity of the surface and severe dyspnœa, and the right cavities of the heart are found dilated and weak. There is no sufficient reason to conclude, that the alteration in the shape of the ends of the fingers and the nails, in phthisical individuals, depends upon delay to the circulation; this state of parts is often developed before the existence of pulmonary disease is at all manifest, except upon careful examination; and, in many persons who have long suffered from the most severe cardiac and pulmonary obstructions, no such malformation of the fingers appears.—Ed. Med. Gaz.

Medical Gazette, Nov. 6, 1846, *p.* 821.

54.—*On the Antagonism between Typhoid Fevers, Intermittents, and Phthisis.*—By M. **Boudin.**

The following summary of M. Boudin's conclusions on this subject are given in a recent number of the *British and Foreign Review.* The facts are simple, and the sources from whence they are obtained sufficiently accurate to justify a reliance on the statements.

1. Those localities in which the producing cause of endemic intermittents thoroughly modify the constitution of man, are remarkable for the infrequency of pulmonary phthisis and typhoid fever.

2. The localities in which pulmonary phthisis and typhoid fever are particularly prevalent, are remarkable for the infrequency and mildness of intermittent fevers contracted on the spot.

3. The drying up of a marsh, or its conversion into a lake, diminishes or prevents intermittent fevers, but seems to dispose the organism to a new series of diseases, in which pulmonary phthisis and (according to the climate) typhoid fever are particularly prominent.

4. After a residence in a thoroughly marshy locality, an individual enjoys an immunity from typhoid fever, the degree and duration of which is in direct proportion, first, to the length of the previous residence; second, to the intensity of the fevers proper to the locality, considered under the two-fold relations of form and type; third, or, in other words, that a residence in a country of remittent and continued fevers, such as certain points of the coast of Algeria, and the centre of the marshy part of Brasse, is more prophylactic against the disease referred to, than, for example, a residence near the marshy embouchure of the Bièvre, at Paris.

5. The conditions of latitude and longitude, and of height (above the sea) which limit the manifestation of marsh fevers, equally limit the curative or prophylactic influence of the marsh miasm.

6. Lastly, certain conditions of race, and, possibly of sex, diminish the susceptibility of the system to the cause of marsh fevers, and in an equal degree diminish the therapeutic influence of that cause.

The subject of which M. Boudin treats has considerable practical value in the distribution of troops, and in the hygiene of those predisposed to consumption.

Lancet, March 27, 1847, *p.* 337.

55.—*On the Inhalation of Naphtha Vapour in Phthisis.*—By **Jas. Duncan**, Esq., M.B.—[Dr. Duncan, finding that the administration of naphtha in phthisis pulmonalis was not successful, although Dr. Hastings stated that tuberculous matter is readily dissolved by it out of the body, has been induced to try the effect of inhalation, by which the naphtha may be more nearly brought into contact with the tubercle. He relates a case in which its use was followed by alleviation of the urgent symptoms, but the final issue is not yet shown.]

Medical Gazette, March 26th, 1847, *p.* 569.

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56.—*On Cod-Liver Oil in Phthisis.*—By David Everett, Esq., Worcester.—[The oil which Mr. Everett employs, and which he has found an efficacious remedy in tubercular disease, is of a pale straw-colour, and much less offensive in taste than the orange-coloured variety. Respecting its administration Mr. E. says:]

The conditions under which the oil seems most likely to prove serviceable are where emaciation exists, and the nutritive functions are languidly performed, always in the absence of febrile symptoms. These are the circumstances under which I have prescribed it. The general results I have witnessed have been increased animal heat and bulk of the body; the removal of erratic pains, and the imparting of vigour to the system. Nor is the appetite often diminished during its use; and even when the patient is taking three fluid-ounces per diem, an amount of nourishment, which, if added to the ordinary quantity of food consumed, must of itself, in many cases, prove beneficial. It does not purge, and if it induce bilious symptoms, it will of course be necessary to suspend it until these have been removed.

Iodide of potassium and some other remedies appear to act with unwonted efficacy during the administration of the oil, or if given whilst it has been temporarily laid aside; but as all I aim at is to add my testimony to that of others who have successfully employed it, I shall content myself by subjoining two cases, in which the benefit derived from it was very decided, and refer parties seeking further information to the pamphlet published by Dr. Hughes Bennett, of Edinburgh, in which is to be found its history, *modus operandi*, and an enumeration of the various diseased conditions of the body in which it has been useful.

Provincial Medical and Surgical Journal, Nov. 11, 1846, *p.* 538.

57.—*On Hæmoptysis.*—By Dr. W. R. Basham, Physician to the Westminster Hospital.—Hæmoptysis may arise from one of several causes. The breaking down of a tubercular deposit, and the laceration of one of the pulmonary arterial vessels passing through or into this deposit. It may depend upon disease of the heart; hypertrophy of the right ventricle, the impulse of blood by the ventricular systole being more forcible than the capillary structure can resist. It has arisen from a condition of the parenchyma of the lung, known as pulmonary apoplexy; a clot is formed analogous to that observed in cerebral apoplexy; the walls by which the clot was retained become ruptured, and fluid arterial blood is profusely poured into the bronchial tubes; and, lastly, hæmorrhage from the lungs may result from simple congestion of these organs, brought on by some circumstance which interrupts the balance of the circulation; a state of pulmonary plethora exists, which is relieved in those of the hæmorrhagic diathesis by a copious secretion of blood from the bronchial mucous surface.

Now, each of these causes of hæmoptysis is attended by certain collateral conditions, which, in the majority of cases, enable us satisfactorily to assign with some degree of certainty the latent cause of the hæmorrhage. Thus in the hæmoptysis which accompanies, or is dependent on, tubercular disorganization, the chest when examined by the stethoscope developes more or less dulness under the clavicles; or, if a large cavity has already formed, a greater resonance than usual; there is absence of the vesicular respiratory murmur; either pectoriloquy or bronchophony in parts where no echo of the voice in the tube should be detected; and in addition to these physical signs of tubercular deposit, the characteristic evidences of the phthisical condition are perhaps added. I may pass by the evidences of pulmonary apoplexy, as it is a rare affection, merely reminding you that for the most part it is a concomitant of hypertrophy of the right ventricle. If the hæmoptysis be dependent on disease of the heart, a careful examination of this organ by auscultation will develope an increase of impulse, a want of rythm in the sounds, a prolongation of the systolic over the diastolic, or perhaps evidence of some valvular obstruction. If neither the lungs nor the heart present symptoms of disease or of any conditions calculated of themselves to bring on hæmoptysis, we must then look to the system at large for some circumstance which, interrupting or disturbing the equilibrium of the circulation, has tended to throw upon the lungs a larger volume of blood than natural, and thus induced plethora or congestion of these organs. Now, there are many conditions in which the system may be placed by disease, by accident, by posture, in which, independent of any morbid state of the lungs themselves, these organs have a larger volume of blood directed to them than the pulmonary function can maintain; plethora results, and where the hæmorrhagic diathesis prevails, hæmoptysis follows. The sudden cessation of some accustomed discharge may be cited as a not infrequent cause of pulmonary congestion. In women, in whom no trace of pulmonary disorganization existed, hæmoptysis has occurred, and that periodically till the uterine function had again become regular. It has been noticed at that particular period of a woman's constitution called the critical, when the menstrual function is about to cease. A woman in St. Margaret's ward, during this last summer, suffered from hæmoptysis, which could be traced to no other cause. The sudden cessation of an hæmorrhodal flux has been followed by hæmoptysis. Such are, for the most part, the predisposing causes to this form of hæmorrhage.

Provincial Medical and Surgical Journal, Nov. 11, 1846, *p.* 536.

58.—*Hooping-Cough an Exanthem.*—By Dr. Volz.—There are many reasons why hooping-cough should not be classed among the neuroses, but rather among the exanthemata. For instance, its epidemic nature, its contagious character, its attraction to children, its occurring only once in a lifetime, its relationship to measles, its regular progress, and its uninterrupted career in the individual, are all points in which it has as little resemblance to a catarrh as it has to convulsions, but which show a great similitude between hooping-cough and acute exanthemata. That it is seldom that any eruption

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is perceived in hooping-cough is no proof to the contrary, since in the other epidemic exanthemata, cases frequently occur where there is no external eruption, but in which, nevertheless, the nature of the disease is unquestionable; and in others, again, the eruption is so transient that it is frequently not observed. Since the time of Autenrieth, the relationship between hooping-cough and the other acute epidemic contagious exanthemata has been suspected. Neumann (*Krankheit des Mensch*, Bd. i. s. 648) has seen hooping-cough accompanied by an eruption resembling measles in form, but having the colour of scarlatina, and appearing chiefly on the breast and arms. This eruption is rare, but Volz also has seen something of the same kind in hooping-cough. Besides the ordinary morbid appearances, Volz mentions certain changes on the mucous membrane of the intestinal canal; these are observed chiefly in the glands of that organ, and are of the exudative kind, and such as are considered by Rokitansky as peculiar to certain pathological processes, among which are included the exanthemata. If this peculiar alteration in the glandular apparatus of the intestinal mucous membrane is found not only in scarlatina, measles, cholera, and typhus, but also in gangrene, purulent deposits, &c., then it is evident that it is not the characteristic of a specific disease, but of some abnormal changes in the blood. Hooping-cough is therefore to be classed among the diseases produced by an abnormal change in the blood, and from the account of its occurrence as a contagious epidemic, and the numerous coincidences between it and scarlatina or measles, as already mentioned, it is improper that it should invariably be classed among the neuroses. With regard to the treatment, Volz found tannin and nitrate of silver each useful in a few cases in alleviating the violence and frequency of the paroxysms, but in general these remedies were of no avail; belladonna was found most uniformly of use.—*Häser's Archiv.*, Bd. iv. Hft. 3.

Monthly Journal of Medical Science, Dec. 1846, *p.* 461.

59.—*On the Use of Alum in Pertussis.*—By Dr. Henry Davies.—After a long trial I am disposed to attach more importance to alum, as a remedy in hooping-cough, than to any other form of tonic or antispasmodic. I have often been surprised at the speed with which it arrests the severe spasmodic fits of coughing; it seems equally applicable to all ages, and almost to all conditions of the patient. I was formerly in the habit of taking much pains to select a certain period of the illness for its administration, and of waiting until the cough had existed at least three weeks, taking care that the bowels were open, the patient free from fever, the air-passages perfectly moist, and the disorder free from complication of every kind. A continual observation of the remedy, however, has induced me to be less cautious, and I am disposed to think that a very large amount of collateral annoyances will subside under its use. The fittest state for its administration will be a moist condition of the air-passages, and freedom from cerebral congestion, but an opposite condition would not preclude its use should this state not have yielded to other remedies. It generally keeps the bowels in proper order, no aperient being required during its use. The dose for an infant is two grains three times daily; and, to older children, four, five, and up to ten or twelve grains may be given, mixed with syrup. rheæd. and water. It is seldom disliked.

Medico-Chirurgical Review, Jan., 1847, *p.* 130.

60.—ETHER IN HOOPING COUGH, SPASMODIC COUGH, AND ASTHMA.

By R. Willis, Esq., M.D.

[Dr. Willis, in referring to the use of ether as a remedial agent in the treatment of spasmodic diseases generally of the respiratory organs, states his belief that it will be found scarcely less important than in surgical operations.]

Ether, given *by the mouth*, has long been familiarly employed in the treatment of asthma. I have for many years been aware of the fact that it is vastly more efficacious administered directly in vapour *by the breath.* My plan of using it is extremely simple. I have had recourse to no kind of apparatus for this purpose, but have been content to pour two, three, or four drachms of the fluid upon a clean handkerchief, and to direct this to be held closely to the mouth and nostrils: a single short and difficult inspiration is hardly made before the effect is experienced; and I have occasionally seen the paroxysm ended in six or eight minutes, the respiration having in that brief interval become almost natural.

It is not otherwise with hooping-cough: the paroxysms of coughing are positively cut short by having the ether and the handkerchief in readiness, and using them when the fit is perceived to be coming on. So effectual have I seen their immediate application, that I have even found it necessary to suffer the patient to have an occasional fit of coughing to its natural termination, with a view to clearing the chest from accumulated mucus.

Hooping-cough often, perhaps most frequently, proves fatal, in the absence of all inflammatory or organic disease, through the simple violence and continuance of the spasmodic cough. The patient goes on coughing till the lungs fail in their function; he becomes livid in the face, and black blood is circulated to the brain; convulsions then ensue, and animal sensibility fails or is lost. The spasm may now have ended, but the sufferer is no longer aware of the *necessity of breathing;* the respiratory muscles are paralysed, a minute passes, and life is gone. If respiration be restored at this critical moment, life may be saved; and this I have myself done: using my own mouth to the child's, to free the air-passages from the frothy mucus that filled them, and blowing the chest up gently, circulation returned, automatic movements followed, and consciousness was restored; and, though this be now five-and-twenty years ago, the child, that to all intents and purposes then lay dead, now lives, a strong man.

I need not insist on the importance of a therapeutical agent that will prevent spasmodic cough from proceeding the length of preventing the necessary changes from taking place in the blood through respiration.

Medical Gazette, Feb. 12, 1847, *p.* 271.

61.—*On Pulmonary Congestion simulating Angina Pectoris.*—By Dr. LATHAM.—Cases of the following kind are not unfamiliar to me. A man has hypertrophy of the heart in a moderate degree, with some small amount of valvular injury, or with none at all. Hitherto he has been tolerably free from painful palpitation and dyspnœa, except under excitement on extraordinary exertion. But suddenly he is found gasping and struggling for breath, and expecting instant dissolution. What is this; and what is to be done? Truly one might be excused for thinking of angina pectoris, or some spasm of the heart, and flying to ammonia and æther and opium for relief. But, putting my ear upon the chest, I have found a small crepitation diffused through the half of one lung, or in the half of one lung I have been unable to catch any audible murmur whatever either natural or morbid. A single cupping upon the chest, just opposite the portion of lung that labours, has swept away the crepitation, or has removed the dulness, and brought back the respiratory murmur; and the patient has been restored in a day or two to his ordinary state of comfort. Here in one instance there has been sudden and extensive effusion into the extreme bronchial ramifications or vesicular structure of the lung, and in another there has been sudden and extensive congestion.

Medical Gazette, Feb. 26, 1847, *p.* 376.

62.—*Asphyxia Neonatorum.* - By M. DEPAUL.—M. Depaul has written a very elaborate paper on the subject of artificial respiration, as a means of resuscitating still-born children. He instituted a series of experiments on the dead subject, with the view of determining the amount of danger of injuring the lungs by the insufflation of air. He satisfied himself that this danger is almost an imaginary one, since, even after the lungs were removed from the body, it required several most forcible insufflations, far stronger than would ever be made in the case of a still-born child, to produce rupture of the pulmonary vesicles. On the other hand, he was struck with the great force needed thoroughly to inflate the lungs, while their resiliency was sufficient to expel the greater part of the air. He found, moreover, in many cases where children had died suddenly after breathing for several hours or days, no other morbid appearance than an unexpanded condition of a large portion of the lungs. With reference to the mode of practising artificial respiration, he condemns the mere blowing into the mouth as inadequate, and recommends the use of a tracheal tube. He is of opinion that there is more danger of failing from imperfect insufflation than of doing harm by its too forcible performance. It is of importance, likewise, that it should not be suspended on the first sign of breathing, but continued until the child cries loudly, and respires well.—*Dr. West's Report on Midwifery.* 1845-6.

Medical Gazette, Feb 12, 1847, *p.* 283.

ORGANS OF DIGESTION.

63.—ON MORBID STATES OF THE TONGUE.

By Dr Samuel Wright,
Professor of Clinical Medicine in Queen's College, Birmingham, and Physician to the Queen's Hospital and the General Dispensary, &c.

Whilst some are disposed, in a prodigality of prejudice, to look upon the tongue as pathognomonic of nearly all the "ills that flesh is heir to," others make comparatively light of it, and consider its testimony as little trustworthy. To be amongst the best judges on the subject, is to belong to neither of these parties. As a rule, the tongue is a very faithful indication of the condition of the alimentary organs; but its evidences are not unexceptionable. A furred tongue, for instance, is a common indication of dyspepsia, but it is not a constant one. You sometimes meet with irritable, nervous subjects, whose tongues are habitually furred, yet without any signs or symptoms whatever of gastric derangement. Others, again, will have clean tongues, and of natural redness, whilst they are suffering from severe stomach disorder. I called your attention to a case of this sort the other morning, in the person of a female, the subject of very severe pyrosis. During the three weeks that she has been under my care, the tongue has never lost its cleanliness or good colour. I once had a dispensary patient affected with scirrhus of the pylorus, of which he died, yet up to the time of his death the tongue was scarcely ever furred or dry. Various circumstances exert a remarkable influence upon this organ. Some people, otherwise healthy, get a furred clammy tongue if their stomachs are empty a little longer than usual; it is the case with myself: I invariably exhibit this peculiarity in a morning, if I go supperless to bed. Others have their tongues furred always when their stomachs are full; the coating continues only during digestion, and passes off as this function ceases. Mental and moral emotions affect the condition of the tongue in a singular manner; perhaps it never becomes morbid without the nervous function, in its higher offices, being somewhat implicated. This would explain why a furred tongue is so rarely met with in the inferior animals. It may happen, and I think not unlikely, that in dyspepsia, the disorder the brain suffers, sympathetically with the stomach, has as much share as this organ itself in giving the tongue its characteristic coating. Certain it is, as I have said, that the feelings of the mind will, in a very few minutes, render a clean tongue a foul one. This is a subject which I have been induced curiously to inquire into for some years past, and I have seldom met with an exception to what I have just observed. Among the profoundly studious, amongst those terrified by sudden apprehensions, or shocked by the sudden advent of ill news; among the hypochondriacal, hysterical, gloomy, and desponding, you will find many examples of the mind's influence, in this particular, upon the body. A patient of mine, living near this town, will well illustrate what I say. He is a man of remarkably good constitution, and moulded like a miniature Hercules. Moreover, he has no incumbrances; an excellent mercantile business, that takes up little of his time, is partial employment for him, leaving him many leisure hours in every day that he has some difficulty in disposing of. These he chiefly occupies in fancying himself the victim of all possible kinds of ailment. There is no disease in the nosology too much for his imagination. Of course, these things are all imaginary, and tiresome enough to listen to, when your judgment and sense of justice tell you that it is not a case for "physic and a physician." You will anticipate my saying that this gentleman is possessed of a most unfortunate nervous sensibility, which chiefly manifests itself in an ideal pathology, all reflected upon his own person. The peculiarity in point, however, which I chiefly wish to speak of, refers to his tongue. I have never yet seen him with this organ quite clean (although I have not once attended him for dyspepsia), yet the readiness with which it acquires a fur is very remarkable. Many times have I examined his tongue, and found it comparatively what it ought to be, before hearing a recital of his imaginary maladies; and, after this, in some quarter or half an hour's detail, that same tongue has put on an aspect almost like that of flannel. I am at this time attending, with Mr. Carter, a patient, one amongst the pitiable many, who have seen better days. I shall take occasion hereafter to give you his case in due detail, but, for the present, I may observe that his tongue has the peculiarity characteristic of the one just spoken of. I should premise, however, that there is a fancied trouble in the one instance, and a matter-of-fact one in the other. Four days ago, in calling upon the gentleman I am now alluding to, one of the first things I did was to look at his tongue. I found it, as usual, very pale, flabby, and moist, but without any coating. After having made other necessary inquiries, I was informed by my patient that his heart, which has long been disturbed by mental emotion, the other night beat with unusual vehemence and irregularity. On my asking if he could account for it, he told me that he had just then received the distressing intelligence that an uncle, from whom he expected a competency, had not left him a shilling! This pitiable tale, told with much earnestness and visible feeling, occupied little more than twenty minutes; at the end of that time I again looked at his tongue, and *found it coated with a thick white fur!*

I mention these things, thus generally, to you, not only as items in pathology with which you ought to be made familiar, but also as suggestive of a discreet rule of practice, viz., to let the examination of a patient's tongue be *one of your first duties at his* *ed-side.* My own experience, perhaps not inconsiderable on this point, enables me to say that in nine cases out of ten, and more especially amongst females, when you have to attempt physical diagnosis, the tongue will be found, at the time of your first entering the sick-room, in a very different condition to what it will be in after half an hour's questioning and manipulation.

Besides moral and mental states, there are certain physical ones, of which the tongue is an occasional, though not an invariable, evidence. Our hospital opportunities have lately given me the occasion of showing you these pathognomonic facts somewhat strikingly. I have dwelt with particularity upon them at the bedside, and have no doubt that they are still fresh in your remembrance. You have seen in several varieties the dark, dry tongue of typhoid fever; the glassy, bright red tongue, with its elevated papillæ, in sub-acute gastro-enteritis; the brown furred tongue of dyspepsia, with bilious derangement; the pale, flabby, furred, sodden tongue of chlorosis, habitual drunkenness, debility of the gastric apparatus, &c.; the pale, or patched, trembling tongue of the hypochondriac, the dissipated, the excessively weakened, from whatever cause; the dry, contracted, dusky-red tongue of gastric irritation, &c. Other than these you have had shown and explained to you, which a running comment leaves me no time to dwell upon. It will become our more specific duty hereafter to deal with them, according to their several claims upon our attention.

A morbid state of the tongue not only indicates (with rare exceptions) the condition of the gastric apparatus, and of the system in general, but an improvement of its appearance denotes, also, that the patient is advancing towards recovery. This change sometimes occurs with singular suddenness, and the patient as suddenly gets well. You remember the girl Scandret, in the middle ward, whom we had some difficulty of relieving of fever that had supervened upon dyspepsia. At last I told you that I saw nothing to contra-indicate the exhibition of minute doses of strychnine, which I thought was likely to be serviceable in her particular state of stomach. Her tongue was broad, flabby, indented at the edges, very trembling, and completely covered with a dense white fur. She complained of a feeling of hollowness or sinking in the epigastrium, with frequent darting pains there, and occasional fits of nausea; her food always lay like a load in her stomach, and oppressed it with flatulence. She was ordered the twelfth of a grain of strychnine three times a-day. She had only taken five doses up to the time of our next visit, and you remember how altered she then was. Her tongue had no indentation on it; scarcely any fur; its trembling was almost imperceptible, and its size diminished. She had no gastric pain or flatulence after the first dose of strychnine. In four days afterwards she left the hospital, apparently quite well. I told you that the appearance of her tongue, and her expressed symptoms, indicated that her stomach was suffering from *irritability, the result of local nervous* *debility:* the manner in which she improved under the strychnine confirms me in that opinion.

There was another case to which I called your particular attention, a short time back, in the person of a girl, I forget her name at this moment, in the top front ward. When convalescent from fever, she one day begged to be allowed some beef for dinner. Her tongue was very furred, but there was nothing else to prohibit the gratification of her appetite; and she asked so imploringly that I ordered her some roast beef, at the same time remarking to you that it was not improbable her anticipated meal would clean her tongue. The next day confirmed what I had said: we found her with neither fur nor fetor in her mouth, and she required no more medicine during the few remaining days that she was in the hospital. It is not always safe to gratify the inclination of patients' appetites, for they are sometimes disposed to crave for very strange things; but when the material wished for is not in itself bad, and there are no particular contra-indications to its use, it is often well to allow a little indulgence, and more especially if it be eagerly sought. Inclination and appetite have frequently a great share in promoting good digestion. I have known oysters, lobsters, pork, pastry, and such like, allowed almost *ad libitum*, for once, to patients, not only with impunity but with advantage. I mention these as curiosities of experience, not as examples for imitation.

Medical Times, Dec. 26, 1846, *p.* 235.

64.—*Sulphuric Acid in Aphthæ.*—By Professor Lippich.—Professor Lippich of Padua, employs with success, the sulphuric acid against aphthæ, and in syphilitic mercurial stomatitis, when the mucous membrane of the mouth and lips are covered with ulcerations, which render deglutition difficult. He uses the following formula:—℞. White honey, 30 grammes; sulphuric acid, 2 grammes. Mix, and make a liniment. In grave cases the proportion of the sulphuric acid may be increased to eight grammes to the same quantity of honey. The ulcerated surfaces are to be frequently touched slightly with this liniment by means of a soft pencil.—*Gazette Médicale.*

Dublin Medical Press, Jan. 27, 1847, *p.* 59.

65.—*On the Nature of the Black Vomit.*—By Dr. Nott.—There have been many speculations on the nature and formation of this fluid, all of which are unsatisfactory; they are well known to the profession, and I shall here merely state my own opinions, and the facts on which they are based. It cannot, I think, be a secretion, because it is most commonly seen in little particles, or masses of various magnitude, which could not pass through a secreting capillary; and my own opinion is, that the black vomit is *blood*, exhaled in its natural state from the capillaries of the stomach, and changed black by the secretions with which it comes in contact: this chemical change, my facts go to shew, is produced by one or more acids. With the assistance of my friend Dr. P. H. Lewis, I have tested the black vomit in a considerable number of cases this summer (1844), and in every instance I have found it to be acid: when ejected from the stomach during life it invariably turns litmus paper red, and the aqueous portion thus filtered differed in colour; in some it was perfectly limpid, like water; in one of a light green colour, like dilute bile with an acid added; in others it was of a deep brandy or rum colour, which appearance was no doubt given by a small admixture of blood.

The secretions of the stomach in yellow fever are often excessively irritating; and this property is probably attributable to the presence of acid. The patient often complains, in the black vomit stage, of a burning or scalding sensation in the stomach, which is immediately relieved by throwing off its contents. The patient, too, often complains of the black vomit scalding the œsophagus, which, after death, is usually found more or less denuded of its epithelium. The acridity of this secretion may possibly account for many of the morbid changes in the stomach and œsophagus. A morbid secretion of tears will scald the cheek; mucus from the nose inflame the lip; morbid secretion from the bowels excoriate the anus; morbid bile irritates the stomach and bowels, &c.,—and we know that the gastric juice will often corrode the stomach in a short time after the extinction of life.

The next step was to ascertain whether acids would, with blood, produce a compound with the characters of black vomit. I accordingly took a few drachms of blood from the heart of a patient dead of yellow fever, and added to it four or five drops of muriatic acid diluted with a drachm or two of water, and shook them well together; the black colour was produced instantly. The same experiment was tried repeatedly on the blood of yellow fever patients, and on that drawn from a patient with pleurisy by cups, and the effect was invariably the same. Any one wishing to form a correct idea of black vomit has only to treat blood in this way, and add a little gum-water, or flax-seed tea, to represent the mucus of the stomach, and his curiosity will be gratified; no one can tell the artificial from the genuine black vomit.—*From an Essay on the Pathology of Yellow Fever. American Journal of Medical Sciences.*

[Remarks.—The above interesting remarks merely afford further proof of a fact which has long been known to the profession. We have always understood that the matter of black vomit, and the "coffee-ground" fluid thrown from the stomach in the latter stages of some forms of peritonitis. &c., owed their peculiar grumous appearance to the presence of altered blood; and we have been told that. more than forty years ago, most of the surgeons who saw much of the bilious remittent and true yellow fevers of the West Indies, were very well aware that the black vomit was due to erosion of the gastric vessels. M. Lassaigne analysed the black matter vomited in a case of scirrhus of the stomach. It was acid and yielded a solid acid, possessing the properties of caseic acid, procured by Proust from old cheese; it also contained a fluid acid, which M. Lassaigne considered to be lactic, but which, according to the corrections of Berzelius, must have been modified acetic acid. M. Collard de Martigny also examined the black matter thrown up by vomiting in a case of chronic disease of the stomach: its chief peculiarities were the presence of caseic acid and malanosed blood. —Ed. Gaz.]

Medical Gazette, Jan. 29, 1847, *p.* 181.

66.—ON THE TREATMENT OF DYSENTERY.

By Dr. W. Baly.

[In the Gulstonian lectures this year, Dr. Baly gives an account of the treatment which he has for several years found most successful in the treatment of the dysentery which prevails in the Milbank Penitentiary. First as to that form of the disease which has chiefly the character of inflammation of the larger bowel, he says,]

The chief means I have found successful in these cases, and the means which have rarely failed, where the dysentery was not complicated with some other diseased state, are bloodletting, the administration of calomel with opium, and gentle aperients.

General bloodletting has seldom been required, but free local bloodletting by means of leeches has never been omitted when there was well-marked tenderness of the abdomen, or, in the absence of tenderness, when the other symptoms indicated the existence of active inflammation in some part or other of the large intestine. The application of leeches, in the number of twelve or twenty-four has been repeated several successive times at intervals of some hours, when the symptoms were urgent, and were not readily subdued by the means first used.

The calomel and opium have generally been administered in doses of two grains of the former, and one-third or half a grain of the latter medicine, every three, four, or six hours, as long as the character of the evacuations and the state of the local and general symptoms indicated the existence of inflammation, or until the state of the gums showed that the system was affected by the mercury. In the more severe cases the production of this effect on the system to the full extent was required; but when the disease was of only moderate severity it was generally subdued so quickly, that the mercurialization of the system to a further extent than was manifested by a slight swelling and tenderness of the gums was unnecessary.

Mild aperients also have been found most useful in perhaps the majority of the cases, but especially in those where the lower part of the large intestines was the seat of the disease, and where the fæces were retained, so that the evacuations consisted almost entirely of mucus tinged or mixed with blood. In these cases the administration of one, two, or three drachms of castor-oil has produced free feculent evacuations, and has afforded great relief to the symptoms. The beneficial effect produced by the action of this mild aperient medicine has often been very remarkable, greater than I know how to explain; while evil seemed always to result from allowing more than twelve hours to pass without obtaining a free feculent evacuation, if the frequent discharge of bloody mucus and other signs still indicated the persistence of inflammation. In many cases, however, no aperients whatever were required, free discharges of the feculent contents of the bowels taking place spontaneously. Indeed, where the cæcum and ascending colon were the seat of the disease, the active stage of the inflammation was almost always attended with copious discharges of liquid fæces, and the subsidence of the inflammation was in great measure evidenced by the less frequent occurrence of these discharges, and their less liquid character.

[When calomel, though given as above indicated, increases the irritation, mercury with chalk, and Dover's powder should be substituted. In every form of dysentery, strict attention to diet is highly important; meats, broths, and succulent vegetables, should be withheld, till we may fairly suppose the mucous membrane to be in a natural condition, or they will protract the cure. In the chronic form of the disease the best astringents were found to be tincture and infusion of catechu and sulphate of iron; respecting their employment Dr. Baly observes:]

But although astringent medicines are most valuable means in the treatment of chronic dysentery, their action, according to my observation, should never be carried so far as to produce actual constipation of the bowels, for this has almost always been followed by an aggravation of the disease. Opiate remedies, too, though generally highly serviceable, and even essential, have sometimes arrested the secretion or excretion of the bile, and have thus produced an injurious effect on the local disease as well as on the general health of the patient. In such cases it has been found necessary either to omit altogether the use of opium, or, diminishing its dose, to combine with it some dandelion or rhubarb.

[When opiate enemata fail to check the tenesmus and bloody discharge, a few ounces of black wash, with a drachm of laudanum, may be injected.]

Other stimulant injections, as solution of nitrate of silver, have appeared useful under similar circumstances, but on the whole, the black wash with laudanum has been found the preferable remedy. At a later stage, when the inner coat of the bowel, having mortified, was becoming detached, similar stimulating injections have appeared to aid the process of separation, and the healing of the solutions of continuity. At all events, the discharges from the bowels, during their use, have become more healthy. Advantage has been derived also from these remedies, especially from injections of a weak solution of sulphate of zinc, when, in the still more chronic stage of the disease, a copious secretion of purulent fluid has taken place from the ulcerated surface of the lower bowel. The discharge has rapidly diminished in quantity, and there has been every possible evidence that the healing of the ulcers was promoted.

Medical Gazette, March 26, 1847, *p.* 538.

67.—*On Dysentery.*—By JAMES TURNBULL, Esq , M.D., Physician to the Liverpool Northern Hospital.—[During the summer and autumn of last year an extremely large number of cases of cholera, diarrhœa, and dysentery presented themselves at the Liverpool Northern Hospital. Dr. Turnbull says respecting them:]

During the summer, and till towards the middle of August, bowel complaint assumed generally the form of diarrhœa, and was easily subdued by ordinary means, though in many cases it showed a great tendency to relapse. Several who had been admitted with other diseases were repeatedly attacked, and in the early part of August many of the surgical as well as medical patients were affected with diarrhœa. In the majority of cases, there was some febrile disturbance, the tongue was often much furred, and there was thirst, with some heat of skin—symptoms, which seemed to arise from irritation, caused by accumulation of the biliary and intestinal secretions. In general, aperients were frequently required, and I was in the habit of giving half an ounce of castor oil, with ten or fifteen minims of the tincture of opium. When, however, the motions were frequent, with much griping pain, and when the bowels seemed to have been well emptied previously, I gave immediately one pill containing three or four grains of calomel, with one of opium; or, at intervals of four hours, two or three pills, each containing two grains of the former, with half a grain or a grain of the latter. Given in this way, calomel and opium never failed to relieve the pain and check the diarrhœa; after which, castor oil and laudanum were taken to evacuate the biliary secretion excited by the calomel, and to unload the intestinal canal of any acrid secretions that might still be retained. In slighter cases, four or five grains of mercury with chalk, and the same of Dover's powder, were used instead of the calomel and opium, and the same combination answered well in some cases where the disease continued after the more violent symptoms had been subdued by calomel with opium and aperients. Chalk mixture with laudanum, aromatic confection, and tincture of kino, or catechu, were found useful in a few of the more protracted cases, and when relapses occurred. Towards the beginning of August, and even before this, patients occasionally presented themselves with the stools mixed with blood; and during September and October, we had many severe cases of dysentery. In a few instances, we have seen the disease prove fatal, but only in cases where the patients were brought to the hospital in a very advanced stage of the disease.

[In two fatal cases of dysentery reported by Dr. Turnbull, the post-mortem appearances differed so much as to point, in his opinion, to two distinct forms of the disease: the first characterized by great vascularity, and very small ulcers; the second, by larger ulcers, and very abundant effusion of lymph. The Dr. says:]

There is, perhaps, no disease, in regard to the treatment of the severer forms of which more difference of opinion has prevailed, than that of dysentery. This variety of opinion, as regards some of the means which are usually adopted, may be in part accounted for, from the more or less acute forms which the disease assumes in different epidemics, and probably, too, if we may judge by the pathological appearances, from varieties in the disease, which may not be distinguishable during life. In the acute dysentery of tropical climates, general blood-letting is often indispensable; and Annesley tells us that the first twelve or twenty hours are of the first consequence, in order to make an impression upon the constitution, and to bring the disease under control, before serious structural derangement has supervened. In temperate climates, the disease is seldom of so severe a character; but in the epidemic which occurred in Dublin in 1818, Dr. Cheyne employed venesection with great benefit in many of the severer cases, attended with pyrexia and tenderness. Again, in the epidemic which occurred in Glasgow, in the autumn of 1827, venesection seemed rather injurious; but Dr. Macfarlane and Mr. Brown found local depletion, by leeches, useful. The epidemic which we have had appears to have resembled the one which occurred in Glasgow; general depletion has scarcely if ever been necessary, and I have seen no instance in which it was required. In a few cases, I have seen much relief and permanent benefit from leeches, and I believe that they have been not unfrequently employed by several medical men, though others have entirely refrained from local depletion.

We may thus, from variety in the character of different epidemics, and in the constitutions of those attacked, account satisfactorily for the more or less free employment of depletion; but we cannot, in the same way, explain how some medical men should object to the use of mercury in every form and stage of the disease, while others prescribe it with benefit to their patients, and some, as Dr. James Johnson, have placed in it an almost exclusive trust. In tropical climates calomel has been given in much larger doses than are suitable in this country. Thus Annesley has recommended scruple doses to be given at night, and followed by a purgative draught in the morning; but not with the view of inducing the specific action. In very severe cases, Dr. Cheyne adopted the method of some tropical practitioners, and bled the patient, and gave a scruple of calomel, with two grains of opium, and the warm bath. After the large dose, calomel, in doses of five grains, with half a grain of opium, was given every third or fourth hour, till it produced ptyalism. As soon as the mercurial influence was apparent from the state of the mouth, the mercurial was laid aside, and a mixture, with balsam of copaiba, was given every fourth or sixth hour, from which the greatest relief was often obtained. "It results," he says, "from a consideration of the cases in my possession, that venesection, calomel, and opium, followed by copaiba mixture and farinaceous diet, proved more successful than any other method in the severest cases; yet it often lamentably failed, of which sufficient evidence will be found in the table of unsuccessful cases."

Dr. Macfarlane gave from fifteen to twenty grains of calomel with one of opium, thinking that it caused less irritation than smaller doses. He followed this by two grains of calomel, with one of opium, and half a grain of ipecacuanha, every four or six hours, to excite mercurial action in the system, which he always found checked the disease. Mr. Brown, on the other hand, thought that it rendered the disease more protracted. Dr. Abercrombie regarded dysentery as primarily an inflammation of the mucous membrane, and was, upon the whole, unfavourable to mercurial treatment. He has stated, however, that in the earlier stages, benefit is frequently obtained from doses of Dover's powder, of from five to ten grains, combined with one of calomel, repeated at first every four or five hours, and afterwards at longer intervals; and he has quoted Dr. Ferguson's recommendation, that in warmer climates a grain and a-half of calomel, with one of ipecacuanha, should be taken every hour, till the mouth is affected, when, he says, the dysenteric symptoms always cease.

In the early period of the epidemic, mercury with chalk and calomel were given with opium and compound ipecacuanha powder, in the manner I have already pointed out, with the view merely of altering the state of the biliary and other secretions, the disease appearing then to be one of disordered secretion only; when, however, it became more severe, and assumed the character of dysentery, it was necessary, in many instances, to resume calomel with opium, after it had been laid aside, and to continue it longer. Thus in some cases, the mouth became affected, and from what I have seen, I am disposed to agree with those who regard its action in this way as beneficial, though I think it seldom necessary in this country. There are some diseases over which the power of mercury cannot be questioned. In iritis, we can see its influence in causing the absorption of the effused lymph. You have lately, in a case of rheumatic inflammation of the eye, still in the hospital, where the patient had lost the sight of the other eye by a previous attack, seen the immediate effect of mercurial action in removing the inflammation, after leeches and blisters had failed. Many medical men, who do not doubt the efficacy of mercurial action in causing absorption of lymph, and the resolution of inflammation of fibrous and serous tissues, are disposed to call in question its power over inflammation of mucous membranes. There is, however, one form of inflammation of a mucous membrane—viz., croup, a disease attended with exudation of lymph—in which even the purgative influence of calomel is most powerful in causing resolution. In the severer forms of dysentery, especially as the disease occurs in warm climates, pathological anatomy shows us that there is also, not unfrequently, an exudation of lymph. You should observe, too, that these are precisely the cases in which the free use of calomel, so as to affect the system, has been found, by experience, to be most beneficial. The abundant exudation of lymph, in the case of Brown, would seem to show, that even in the more severe cases which occur in this climate, the free use of calomel may be required. Where the disease has passed into the chronic stage, as in this case, I have generally avoided affecting the mouth, fearing that it might increase the exhaustion ; many, however, of those writers on tropical dysentery, who, like Ballingall, are opposed to the free use of mercury in the acute form, recommend a slight mercurial action in the chronic; and had the disease existed in a less advanced stage, it would seem that this would have been the remedy most likely to promote absorption of the disorganizing lymph.

Lancet, Jan. 9, 1847, *p.* 27.

68.—*On the Employment of Matico in Malignant Dysentery.*—By Robert Hartle, Esq., M.D., F.R.C.S.E., Deputy Inspector-General of Army Hospitals.---[Dr. Hartle has communicated to Dr. Jeffreys, of Liverpool, some cases of epidemic dysentery with intestinal hæmorrhage, which he has successfully treated with *matico.* The cases occurred in Trinidad, West Indies. Dr. Hartle says,—]

The disease was ushered in with pyrexia, and the most malignant concomitant symptoms of the malady, accompanied by profuse hæmorrhage from the bowels, with extreme relaxation of the sphincter ani. In some of the cases tenesmus was distressing, while in others there was no pain whatever; yet in all, the blood was constantly streaming from the rectum, while the anus was extensively dilated. The Spaniards, aborigines of this island, call this disease, where it assumes such a malignant type, with dilated anus, "bischeo;" and they solely depend, as a restorative, on the use of lime-juice, taken as lemonade, *ad libitum,* glysters of lime-juice and water, baths of the same, and the dilated anus is plugged with a lime, which is nicely peeled, then cut round from the core, inverted, and introduced into the rectum. No inconvenience, pain, or difficulty, attends the introduction of the lime, for the sphincter ani appears to have lost all sensibility and power of contracting; for as fast as the one plug is ejected another is immediately introduced.

The first patient I had suffering under this malignant type, was a youth, seven years old, son of a merchant in this town. My preliminary treatment consisted in clearing out the primæ viæ with an infusion of radix ipecacuanhæ, and immediately after I commenced the lime-juice treatment, (until I could obtain my matico from the vessel), which I persevered in until the fifth day, when, finding my little patient was losing ground, that the hæmorrhage was increasing, and that the dilation of the rectum was more alarming, I instantly commenced with an infusion of the matico. (one ounce to the pint of boiling rain-water), and gave a tablespoonful every third hour, and a glyster of the same infusion one hour after he had taken each dose of the infusion. His recovery was rapid, and a few days after he became convalescent, he quitted this place with his parents, and arrived safely in England.

[Dr. Hartle treated every case which came under his care, with the same medicine, and he reports that it proved successful in every instance.

Dr. Jeffreys states that in the new "List of Bosquet's Medicinal *Hydroids*, or Concentrated and Chemical Solutions of the Organic Alkalis" is mentioned that of matico. The dose of this preparation, which is eight times the strength of Dr. Jeffreys's infusion, is from one to two drachms.]

Provincial Medical and Surgical Journal, Feb. 24, 1847, *p.* 109.

69.—ON CHOLERA.

By Dr. MAXWELL, Surgeon to the 3rd Reg. Madras Light Cavalry.

[Dr. Maxwell finds that Cholera is produced by the same causes as intermittents; and that it generally follows great changes of climate and temperature. It prevails most in malarious localities, and is indeed closely related to fever and dysentery. As prophylactic measures Dr. M. enumerates,]

Regular and moderate living. Avoidance of all excessive fatigue, and especially subsequent exposure. The body to be well clothed in a flannel shirt from the neck to the pelvis. The exhibition of quinine and other tonics and antiperiodics.

Principles of Cure.—Vomiting being the first symptom, it is to be carefully and diligently encouraged with copious, bland, warm, or hot diluents, as barley-water, or other mucilaginous drinks, to assist nature in throwing off the congestion, in other words, to assist her in escaping into the febrile stage. Narcotics, especially in large doses, to be avoided. I consider that they paralyse the nerves and interfere with the operations of nature, The surface to be constantly rubbed dry with flannel, and the throat, back, and chest to be covered with the same material. Should, at the same time, a febrile reaction not have shown itself (known by a slight shivering or desire to be covered up), then the epigastrium is to be rubbed unremittingly with the liquor lyttæ, till the patient is fully sensible of its action, then an emplastrum lyttæ is to be applied to that part, and the abdomen and loins enveloped in a flannel roller, well applied in several convolutions. The only hope depends on the blister being well and properly applied. I have tried boiling water and the actual catery. I found them too violent, and fail. If the thirst continue, it may be relieved by effervescing draughts of bicarbonate of soda and citric, or tartaric acid, *ad libitum.* At the same time, the respiratory apparatus must be attended to; and if the dyspnœa is urgent, with a sense of suffocation, general and topical bleeding must be had recourse to, according to the urgency of the symptoms, guided by the judgment of the practitioner.

Leeches to the cardiac region should never be lost sight of, as well as to other parts of the chest. The symptoms requiring bleeding and leeches may make their appearance from the first, or they may arise at any period of the disease. They require to be narrowly watched. They are often known by a tendency to coma, as if the cerebrum were *alone* affected. Should the dyspnœa continue, and appear to proceed from participation of the recurrent nerves, and the larynx be more especially affected, then the liquor lyttæ must be well rubbed in, till its effect is produced, and an emplastrum lyttæ well applied with a flannel roller.

Medical Times, Jan. 23, 1847, *p* 322.

70.—*Employment of Bismuth in Diarrhœa.*—By M. Rayer.—M. Rayer speaks in praise of the trisnitrate of bismuth when used in the diarrhœa to which phthisical patients are so liable, and in that which occurs during the progress of typhus. This remedy has for many years been employed, and often with great advantage, in the simple form of diarrhœa which affects young children.

Medical Gazette, Nov. 20, 1846, *p.* 908.

71.—ON ACCUMULATIONS IN THE COLON.

By Dr Robert Dick.

In ordinary cases, the best evacuant of the colon, in its loaded and preternaturally offensive state, is a bolus, at night, of blue pill, aloes, and myrrh, followed, next morning, by a dose of castor oil, with or without a turpentine enema. Turpentine, as I have already remarked, has a most cordially stimulating and corrective effect in loaded, torpid, fœtid, and flatulent states of the cæcum and colon. In some cases, it is necessary to repeat the above bolus, on alternate nights, for a week or ten days, before the desired subsidence and softness of the abdomen, in the track of the cæcum and colon, are obtained; by which we are assured that the great bowel is disembarrassed of long-formed accumulations. A course of vegetable bitters and laxatives, such as aloes and taraxacum, and injections of cinchona and oak-bark decoction, are simultaneously to be employed.

Lancet, March 27, 1847, *p.* 333.

72.—*Remarks on Drastic Purgatives.*—By Dr. Robert Dick.—Veratria, the alkaline principle which is supposed to give activity to colchicum and white and black hellebore, is a powerful, and it may even be said intractable and dangerous, hydragogue-purgative. In arthritic cases, attended with great plethora and distinct constitutional fever, with torpid and loaded bowels, scanty and high-coloured urine, and tumultuous action of the heart, veratria is indicated.

Veratria, one grain; powder of acacia, two scruples and a half; syrup, a sufficient quantity.

The dose may be carried to three pills daily. This is the formula recommended by Majendie. We have seen no good effect from it in paralysis, for which some recommend it.

Veratria may also be used in tincture and ointment.

Elaterium is somewhat analogous in its properties to veratrum. Its action, which is that of a hydragogue-purgative, is extremely violent. It is useful in the inflammatory anasarca of robust or young subjects; but its use is to be deprecated in chronic dropsies, and in the cases of persons feeble or aged. I have seen it powerfully check rheumatic fever, and wonderfully relieve rheumatic metastasis to the heart. I have also seen it rapidly reduce the effusion into the cavity of the large joints, consequent on acute articular rheumatism. Some degree of its febrifuge power no doubt depends on the extreme nausea which it usually induces.

From ten grains of the extract of elaterium, one grain of an alkaline principle called elateria, or elaterin, may be obtained. A tincture of this is more manageable than the extract.

Elaterine, one grain; spirits of wine, eight drachms; nitric acid, two minims. Dose, thirty or forty drops.

This dose, I may remark will, with many persons, act drastically. Where it does not operate sufficiently, it may be repeated, in a full or half dose, after three or four hours.

In suspected scirrhus of the pylorus, neither veratrum nor elaterium should be ordered, unless in very particular exigencies, and then with very particular precaution.

Croton oil is another of our drastic purgatives. In torpid states of the bowels, and when the vena portæ is in a state of congestion and distention, constituting what is called abdominal plethora, which some German writers consider a very important pathological condition, croton oil often brings sudden and marked relief. It also decidedly eases cerebral congestion and plethora, promptly dissipating the most intense and alarming headaches. Unless cautiously administered, however, it is a debilitating cathartic, and its use is not to be thought of in irritable states of the gastric or intestinal mucous membrane.

The half of the following combination will be found to be nearly corresponding in strength to a similar dose of castor oil:—

Croton oil, one minim; oil of almonds, two ounces.

We may here observe that oil of turpentine has almost all the advantages, without any of the disadvantages, of croton oil, while the former possesses some good properties which the latter wants. In sluggish and flatulent states of the bowels, in tumid states of the intestinal mucous membrane, with a congested and distended condition of the rectum, oil of turpentine often gives surprising relief. Its nauseating taste and smell, and its tendency, for some time after it is taken, to rise in eructations from the stomach, are its drawbacks. But this is compensated by the singularly warm and invigorating influence it has on the abdominal organs. In gouty, rheumatic, and paralytic cases, it is a most valuable means. It may be used, with great benefit, in injection as well as in draught.

Lancet, Jan. 23, 1847, *p.* 89.

73.—*A few Hints on Constipation.*—By Dr. ROPERT DICK.—In all cases of constipation or torpor of the bowels, attention to the cæcum is important. It is here that fæcal accumulations are, on several accounts, apt to take place. The circumstance of the large bowel here forming a cul de sac, out of which, moreover, the fæcal matter, during fourteen or sixteen of the twenty-four hours, can only escape by a course counter to gravity, disposes not a little to the collection there of excrement. And, indeed, in most cases of constipation, in cases of chlorosis, &c., we shall generally both see and feel a fulness at this part, sometimes of remarkable and even alarming extent and hardness. There is generally also considerable tenderness of the part; so that handling or pressure of it causes to the patient, not acute pain perhaps, but an unbearable uneasiness, which prevents you from making the examination freely. And I have no doubt that, in not a few cases, a state of chronic irritation, of (sub)-inflammation, and even of ulceration of the mucous membrane of the cæcum, is induced, from the prolonged contact of hardened fæces, which, moreover, has become preternaturally fœtid, and undergone certain irritating chemical decompositions. In such circumstance, either round or irregular masses of a fatty-looking substance may often be detected in the evacuations. This consists of inspissated mucus, secreted by a surface highly irritated or subinflamed. A slight prolongation or increase of such irritation will convert this inspissated mucous discharge into a purulent one.

The fact of accumulation in the cæcum being ascertained, a bolus or pills, containing ten or fifteen grains of blue pill, aloes, and hyoscyamus, in equal parts, are to be given at bed-time, on one, two, or three alternate nights. Next morning, a dose of castor oil is to be taken, and means afterwards are to be used, both dietetic and purgative, to keep the bowels patent, and prevent a recurrence of the impaction of the cæcum.

Injections are of much use in this complaint, though only, indeed, of temporary utility. They should be of an oleaginous quality, and be large in quantity, and either during, or subsequently to, their being administered to him, the patient should lie on his right side, so as to promote the passage of the injection to the ascending colon and the cæcum. The right groin should be gently, but effectually, kneaded, as it were, by the hand of the patient himself, or of an assistant. In this way, lumpy masses of fæces, which had obviously accumulated in the cæcum, may often be brought away, to the great relief of the patient. A tablespoonful or two of oil of turpentine added to the injection, adds much to its efficacy. This oil seems to exert a most salutary influence on the colon.

A German lately came to London, who professed to cure cases of constipation without the aid of medicine, and simply by friction. He rubbed and kneaded the abdomen, first over the small intestines;

then, beginning from the right groin, he continued the process all along the course of the colon to the left groin. By this means, he, probably, actually forced along the fluid fæces, and, at the same time, stimulated the muscular coat of the intestines to contract. He devoted several hours, on successive days, to this manipulation, and, as I was informed, often succeeded on the second, third, or fourth day, even in some obstinate cases.

Lancet, Jan. 9, 1847, *p.* 32.

74.—*On Colic.*—By Dr. Robert Dick.—[This name, Dr. Dick observes, is applied to several diseases whose only common character is that they are seated in the intestinal canal, and have *pain* as a prominent symptom. He says,—]

The principal varieties of colic are—bilious colic; spasmodic and flatulent colic; a third variety, for which we would suggest the name scybalous; lead or painters' colic; vegetable, Poictou, or Devonshire colic; and, lastly, infantile or meconial colic. In this enumeration, we have left out volvulus or ileus, because this is often, or always, but an aggravated form or consequence of some one or another of the varieties now named. Nor have we thought it necessary to allot a separate place to colic arising from intestinal or hepatic concretions, and other rare causes.

1. Bilious colic is generally the consequence of a profuse action of the liver, the bile being, at the same time, of morbid quality, and irritating in its effect on the mucous membrane. In some diseases, as is remarked by Dr. Prout, the bile is acid: in some instances, it is so to such a degree as almost to excoriate the lips when vomited, and to cause severe *ardor ani* when evacuated downward. This change may depend on some excess or morbid alteration in the oleic acid. Again, the bitterness of the bile sometimes increases to an acrid degree, depending on some morbid change in the biliary resin. It is easy to understand how a fluid so corroding in its action will irritate, if not inflame, the mucous surface of the intestine, and provoke spasmodic contraction or violent peristaltic or anti-peristaltic efforts, in its muscular coat.

The treatment is simple: total abstinence, *pro tempore*, from stimulant food and drink; the ample use of warm diluents, which, on first being taken, may act as emetics, and no other harm, but rather advantage, if they should; then, gentle oleaginous laxatives and enemata. Both the laxatives and enemata may have, if griping is severe, a few drops of the tincture of hyoscyamus or of opium added to them. In France, infusions of chicory, taraxacum, and lettuce, to which acetate of potass is added, are recommended.

In severer cases of bilious colic, a chillness, like the cold stage of fever, sometimes comes on. Against this, a hot bath is the best means, by which also the colicky pains are generally much alleviated.

2. *Spasmodic, or Nervous or Flatulent Colic.*—These have many points of resemblance. If no signs of inflammation are present, they are to be treated by antispasmodic and carminative draughts

and enemata, and by warm abdominal frictions. The following are the substances we must principally rely on: valerian, assafœtida, musk, castoreum, galbanum, belladonna, camphor, the aromatic waters and oils, as those of anis, fennel, pimento, carraway, &c.

3.—*Scybalous Colic.*—In this variety, irritation of the mucous membrane of the bowel, even of a sub-inflammatory or inflammatory kind, may be caused by the prolonged contact of scybalæ; and either obstinate torpor of the gut, with constipation, may ensue, or, what is more to be dreaded, anti-peristaltic action may commence, ending in dangerous or fatal ileus.

In this case, oleaginous laxatives, such as castor and olive oil, must be given, and that in a manner least likely to excite nausea; since thereby the tendency to anti-peristaltic action may be increased. Copious oily enemata, aromatised so as to excite the downward action of the bowels, should, at the same time, be assiduously employed. All drastic purgatives should be abstained from.

4 *Lead or Painter's Colic.*—The treatment of this disease, practised in a principal hospital of Paris, and which is often successful, is as follows:—

First day.—In the morning, a purgative enema is administered, consisting of the following various ingredients:—An aromatic electuary, containing scammony, thirty parts; jalap powder, four parts; senna, eight parts; syrup of buckthorn, thirty parts; boiling water, 125 parts. During the day, a tisane, made from cassia, sulphate of magnesia, and tartar emetic, is taken; and in the evening, an anodyne (?) enema of walnut oil and red wine, succeeded by a *bol calmant*, consisting of a drachm of theriaque (a senseless medley of almost every known antispasmodic, tonic, and narcotic) and one grain of opium.

Second day.—This day commences with an emetic, consisting of two-thirds of a grain of tartar emetic in eight ounces of water, divided into two doses, and taken at the interval of an hour. In the course of the day a sudorific tisane is drank, composed of a decoction of somewhat more than six ounces of rasped guaiac in one pound and a half of water; this being boiled down to half that quantity. In the evening, the " calming bolus" (see first day) is repeated.

Third day.—This day commences with a laxative sudorific tisane, consisting of an ounce of guaiac, half an ounce of sarsaparilla, a drachm or so of sassafras, the same of liquorice, half an ounce of senna, and so much water as to form, when boiled and strained, about half a pint of decoction. Soon after, a purgative potion is administered, consisting of an aromatic electuary, containing scammony, a drachm of jalap, two drachms of senna leaves, seven drachms of syrup of buckthorn, and one pound of boiling water. In the evening, the anodyne enema (see first day) and calming bolus (see ditto) are repeated.

Fourth day.—The same routine as the third.

Fifth day.—During the day, the sudorific tisane is given, (see second day); at four in the afternoon, the purgative enema, (see first day); at six o'clock in the evening, the anodyne enema, (see ditto); and at eight o'clock, the calming bolus, (see ditto), are successively taken.

If the disease has not now yielded, the above whole series of treatment is repeated, (only the emetic solution is omitted), and is continued until the abdominal pains are removed, and the patient goes regularly to stool.

It must be owned that the treatment now detailed is very methodical, and is a not unskilful *melange* of means calculated to stimulate the bowels, and to quiet them and relieve their spasmodic action alternately.

Alum and sulphuric acid also undoubtedly possess something like specific powers in the treatment of lead colic. Kapeler recommends from two to four or five drachms of alum to be dissolved in five ounces of a demulcent julep, and this to be taken in doses of a spoonful every hour. In Germany, this is much used, and is very successful. Dr. Copland states that he has uniformly succeeded by means of alum, which, however, he combines with camphor, cayenne pepper, and, occasionally, opium, and assists with oleaginous clysters. Gendrin recommends as a prophylactic to operatives engaged in lead mines or manufactories, a sulphuric acid, "lemonade," as he calls it, consisting of a drachm or two in a pint or more of water, sweetened so as to make it agreeable, and taken in quantities of twelve or sixteen ounces a-day.

Besides the means now enumerated, elaterium, croton oil, calomel, and many things else, have been suggested and tried, in lead colic, with various results. We should, however, ourselves prefer the French treatment above detailed, or the aluminous treatment, which, it may be observed, "more certainly" (to use Dr. Copland's words) "opens the bowels than any other."

Lancet, March 13, 1847, *p*. 275.

75.—*On the Use of Beer in Dyspepsia.*—By Dr. ROBERT DICK.—Barley which has been made slightly to germinate, and has then been dried, so as to destroy its vital property, forms the substance called malt. The process now described gives rise to a principle named diastase. Three degrees of heat are applied to barley in the above preparation: first, a moderate degree, producing pale malt, which is capable of fermentation, and two greater degrees, producing brown and torrified malt, neither of which is fermentable, and the former of which is employed for flavouring, the latter for colouring. From the pale malt, ales, and from a mixture of pale and torrified malt, porters are prepared. To both ale and porter an infusion of hops is added; and, in general, porter is more highly hopped than ale. New ale and porter which are free from acid are named mild; those which have been kept for some time, and in which acid is developed, are called hard. Some people prefer hard beer, and to suit this taste, the publicans are accustomed, when necessary, to convert mild into hard beer, by a summary and simple process, to wit, the addition of sulphuric acid. Again, others prefer mild beer, and the publicans, when their supply of this is low, and they have an abundance of old or hard beer, convert the latter into mild, by adding to it soda, potass, carbonate of lime, &c.

Various other adulterations are practised. The narcotic quality of hop is replaced by cocculus indicus; sweetness and colour, by liquorice, (an innocent fraud); thickness, by lintseed; a biting pungency, by carraway-seed and cayenne pepper. I have been informed also, that nux vomica is sometimes used, to give at once the desired narcotic quality and bitter taste. Quassia is also said to be used with the latter view; treacle is likewise employed to give sweetness and consistence; while, to give beer a frothy surface, sulphate of iron and alum are had recourse to. Such is the wholesome beverage of which nine-tenths of the English people daily partake! Yet the frequent or constant occurrence of these adulterations is known, and a crime which a Turkish cadi would punish with summary decapitation, is almost wholly winked at by the police of this country. While a loud outcry is made about a many partial and circumscribed omissions or contraventions of sanatory conditions affecting the health of particular districts, this evil, deteriorating the health of thousands, and deliberately perpetrated, is overlooked.

Taken moderately, and by persons who do not eat inordinately of animal food, and who use sufficient exercise, ale and porter are harmless, and may even be allowed to be, in some cases, productive of advantage. The cases, however, in which either beverage is indispensable to those in health are rare indeed, if, in truth, there are any such cases. But the use of malt liquor, if not necessary, must be hurtful, since the body is thereby trained to rely on a stimulant of a very artificial kind; one that experience shows us is far more apt to be abused than the more natural and wholesome supports of the body, bread, vegetables, &c., are liable to be; one that almost always induces in those who systematically use it a habit of body in which disease more readily occurs, more rapidly progresses, and more tends to grave or fatal terminations, than in the cases of those not used to that stimulus. These we hold to be facts undeniable.

Cases of simple and direct debility, uncomplicated with any derangement of the digestive organs; cases of emaciation after fevers, inflammations, or other exhausting diseases; cases of extensive loss of blood from hæmorrhage; cases of profuse suppuration from abscesses or sores; cases of morbid discharges of an exhausting kind, as copious blennorrhœa, &c.—these are the cases in which the use of malt liquor is positively indicated.

Indian pale ale, which is, I believe, doubly hopped, and in which care is taken to prevent the development of acid, is taken by many without the inconveniences attending the other species of beer. The strong and syrupy ales—as Leith, Alloa, Burton, and Kennet—are apt to be acescent on many stomachs, to cause flatus, and even febrile excitement, and in persons disposed to renal disease, to give rise to dysuria and various urinary deposits. These strong and rich ales are said to be fattening; and they certainly seem to increase the bulk of those largely employing them; but the increase is due to an augmented deposition of adipose matter, not of muscular fibre, and in some cases the enlargement seems partly œdematous.

Porter and ale seem best to suit meals in which little or no soup or vegetables are taken, but in which bread and meat are alone or chiefly used. Vegetables, more especially cabbages, or turnips, or vegetable soups, taken along with beer, are extremely apt to produce flatulence, and sometimes colic.

The composition of the milder sort of beer may, in round numbers, be stated to be—

Water, carbonic and acetic acids	90.
Alcohol	3.
Extract	4.
Albumen	0.5.
Phosphate and sulphate of potash, chloride of potassium, phosphate of lime and magnesia and silica	0.25

Lancet, Jan. 9, 1847, *p.* 31.

76.—*On the Treatment of Worms.*—By Dr. Henry Davies.—We prefer, in children, the spt. terebinthinæ ʒ ss. or ʒ j. doses in this form :---℞. Sp. tereb., mellis, mucil. āā ʒ ½, aq. ℥ ss. F. ht. One to be given every six hours. Every second day an efficient dose of calomel should be given with p. scamm. co., or a dose of castor-oil; or the sp. tereb. may be given in milk. We have never met with tænia in children under eight years old, or known it to resist this treatment.

For Ascarides---an enema of some strong bitter infusion, as wormwood or chamomile flowers, or semen santonici, should be administered moderately warm, slowly, and in sufficient bulk to distend the rectum, and through a large pipe. It is desirable that it should remain some time up; it is to be repeated twice a week, and, on the intermediate days, a brisk purgative may be given, and generally the administration of three or four enemas, with the intermediate aperients will be sufficient.

As debility of the organs of digestion, unclean bowels, deficient exercise, improper food and clothing, are the circumstances most favourable to the propagation and continuance of worms, it is in vain to give medicine, unless we endeavour, by appropriate means, to restore the general health. Exercise should be taken in the open air. The strength of the digestive organs should be increased by tonics, for which purpose the bitter vegetable infusions in combination with soda, and some aromatic, may be given; the chalybeates, where they can be borne, are still better. The abdomen should be rubbed with stimulating embrocations, and when it is large a roller or belt should be applied. The food should be nutritious and somewhat stimulant, and taken in moderate quantities; all unripe fruit and *ill-dressed vegetables* should be avoided. The child should be sent into the country.

Medico Chirurgical Review, Jan., 1847, *p*, 129.

77.---*On Senna with Matico, in Hæmorrhage from the Bowels.*---By Dr. WATMOUGH, Pocklington.---I have frequently used matico in cases of hæmorrhage, but I was much pleased about three months ago, with the benefit obtained from combining it with senna, in a case of typhus fever, where hæmorrhage from the bowels took place. As I had previously attended to the state of the liver, &c., I immediately ordered matico and foliorum sennæ, utrq. dr. ij., to be infused in a pint of boiling water, and a wine glassful to be taken frequently. Scybala mingled with blood soon passed the intestines, after which less blood flowed, and by continuing the above mixture in similar doses at various intervals for three or four days, during which time the alvine evacuations gradually improved, my patient soon got rid of this troublesome symptom.

Prov. Med. and Surg. Journal, March 10, 1847 ,*p*. 138.

78.---*Acute Melæna cured by Gallic Acid.*--[Dr. Durrant, secretary to the Ipswich Medical Society, metions the case of a cachectic young man with acute melæna; in which antiphlogistic remedies, acetate of lead, and turpentine with tincture of opium, were given without benefit. Four grains of gallic acid were then administered every four hours, with tincture of opium; and the discharge shortly ceased.

Provincial Medical and Surg. Journal, Dec. 16, 1846, *p*. 603.

79.--*Epistaxis treated by Insufflations of Alum.*---By M. LECLUYSE. ---When hæmorrhage from the nasal cavities assumes a dangerous aspect, recourse is generally had to plugging, a measure both inconvenient and painful. M. Lecluyse has successfully employed means far more simple, and at the same time, according to his own account, more certain, namely, the insufflation by means of a quill of equal parts of powdered gum arabic and alum. In one case this succeeded after three repetitions; other means, and plugging among them having entirely failed.--*Gazette des Hôpitaux*, Nov. 3, 1846.

Ibid, Jan. 27, 1847, *p*. 52.

80.---*On Bile.*---By Dr. ROBERT DICK.---Mercury seems to act stimulatingly on all secernent glands. In all likelihood it operates with as much energy on the pancreas, the follicles of Lieberkühn, and the glands of Brunner and Peyer, as on the liver. The last-named gland, however, from the colour, quantity, and activity of its secretions, betrays more readily and unequivocally than the others, the influence of any foreign agent. Mercury appears to act in two ways on the liver: locally, if we may so express ourselves, as a simple purgative; systematically, as a general stimulant, conveyed to the organ by the circulation. As regards the former of these modes of operation, Sir James Annesley appears to attribute the superior cholagogue property of mercury to its power of detaching or softening the viscid mucous secretion, which, as he supposes, occasionally produces occlusion of the orifice of the *ductus communis*, and that, by so doing, mercury causes "a discharge of bile into the intestine, which was only prevented by the mechanical obstacle in its way." This may possibly be the case. Certain it is, that the duodenum is often found coated with thick, tenacious mucus, which may have the effect ascribed to it above. It is also undoubted, that oftentimes there is reason to suspect, that in consequence of chronic irritation from disease or stimulant food and drink, the mucous membrane of the stomach and duodenum become vascularly congested and tumefied, so as probably to close, nearly or wholly, the orifice of the common duct, where it opens into the duodenum. In these circumstances, mercury, or probably other purgatives, by taking off the loaded state of the duodenal mucous membrane, may release the pent-up bile. Jalap, scammony, the sulphates of soda and magnesia, ipecacuanha, potassio-tartrate of antimony; in short, substances which combine purgative properties with a power of producing nausea, have the effect of stimulating the discharge of the liver.

That certain purgatives have this local effect on the liver is proved by the occasionally almost immediate reduction of the volume of the organ, followed by copious bilious stools, which succeed the administration of such purgatives.

The chloride and bichloride of mercury have this rapid action frequently; whereas, the blue-pill acts much more tardily, though, possibly, its action may be as local as the other forms. It may perhaps be converted into the chloride by the hydrochloric acid of the stomach.

Mercury, then, is an excellent occasional purgative of the liver; and it is the best or only agent we can greatly confide in for keeping that organ in a prolonged state of activity. The nitric and hydrochloric acids, indeed, together or separately, and given internally, and used in pediluvium, semi-cupium, or whole bath, have this continued effect also in many cases. But while they often fail altogether, their operation, even when it follows, is rarely so perfect as that of mercury.

Some of the metallic salts, as the nitrate and chloride of silver, the chloride of gold, and even arsenic, are said to have the same effect, but I have never noticed it.

Retention of bile in the liver, is, in some cases, caused by an unduly insipid and inert diet, by which a sufficient stimulus is not exercised on the duodenum and liver. It is this unstimulant character that gives to several articles the reputation of causing bile, though they are far from containing so plentifully as others, the principles of that secretion. As, however, they fail, from the cause named above, to stimulate the liver, and the bile accumulating in the organ is, in some cases, re-absorbed, giving a sallowness to the complexion and conjunctiva, the articles referred to seem, but *only* seem, to be peculiar generators of bile: milk, rice, boiled and eaten without pepper, curry, or ginger, and other such articles, have the effect described.

Lancet, Dec. 19, 1846, *p.* 656.

81.—*On the Use of Bromine in Hepatic Affections, &c.*—By Dr. Robert Dick.—There can be no doubt, that in some cases of hepatic derangement iodine affords relief; and the action of bromine considerably resembles that of iodine. A congestion both of the biliary and of the blood-vessels of the liver occasionally occurs without any very obvious cause: the bile is scantily discharged; the volume of the liver is enlarged; and the whole abdomen, probably from a *remora* in the portal circulation, becomes tumid, as in incipient ascites. In these circumstances, an effect seemingly magical follows the use of iodine or bromine. The liver acts and subsides, and the belly rapidly resumes its ordinary size.

Magendie's formulæ for the use of bromine are still as good as any, only the doses may be considerably larger than ordered by him. Bromide of potassium, ten grains; orange or cinnamon water, four to six ounces: dose, a dessert-spoonful twice or thrice a day. Or, bromide of iron, thirty-six grains; confection of roses, *q. s.* for fifty pills. two to be taken night and morning.

In dyspeptics with strumous habits, the above formulæ, the latter of them more particularly, will be found very useful. There is a form of dispepsia which may be said to be characteristic of strumous subjects; it also is found in persons constitutionally prone to bronchitic attacks: and in both these classes of persons, the mucous membrane of the stomach has the same inflammatory dispositions with that of the trachea and bronchiæ. It is remarkable, that so soon as abscesses form in the lungs, or purulent expectoration begins, the irritability of the stomach disappears, appetite becomes lively and digestion vigorous.

Lancet, Jan. 9, 1847, *p.* 32.

82.—*On Colchicum.*—By Dr. Robert Dick.—This is a plant of no small importance. In its properties, it is partly diuretic, partly cathartic. It acts very decidedly on the liver, removing torpid states of that organ, and causing yellow or even dark stools to succeed grey or white ones.

In France, colchicum is ranked among diuretics, and undoubtedly it promotes the action of the kidneys, and by facilitating the secretion of uric acid, is proper in cases of gouty or rheumatic diathesis, and obviously controls the paroxysms of arthritis and rheumatism. In what manner does colchicum act on the kidney? Not directly, we apprehend, but indirectly, by promoting the action of the liver. We have elsewhere called attention to a fact of some importance, that often when the liver does not secrete duly, and when, consequently, the stools are pale and scanty, neither does the kidney act sufficiently, the urine being high-coloured or turbid, and of diminished quantity. In such circumstances, anything that acts on the liver, as, for example, a few grains of calomel or blue pill, causes, very soon after, an improved action of the kidney. We believe it to be in this indirect manner that colchicum acts diuretically.

Its action both on the liver and kidneys is satisfactory. When its diuretic effect is wanted, and that speedily, the acetum colchici is to be preferred. When its cholagogue and cathartic effects are more particularly desired, the extract, wine, or tincture, is to be selected. These, more particularly the first of them, should rarely or never be given alone, and uncombined with some other more safe and certain purgative, as mercury, aloes, colocynth, scammony. Because colchicum, given by itself, sometimes entirely fails to act either as a renal or alvine evacuant, and being absorbed, operates alarmingly on the nervous system, causing the most marked moral and physical prostration.

In cases of gout in robust subjects, accompanied with much hepatic engorgement, and in whom the tongue and conjunctivæ are yellow, the most efficient combination is of that of the wine, tincture, or acetum of colchicum, given in draught, with from two to six drachms of sulphate of magnesia, and two to six grains of nitrate of potass. This may be repeated every three to six hours, until the bowels and kidneys are decidedly acted on. In these cases, the dose of the wine or tincture may be from ten to sixty drops.

In old and worn-out gouty subjects, in whom any tendency to metastasis has manifested itself, and in the subjects of chronic rheumatism, we must be more guarded in the use of the neutral salts; more careful to conjoin with the colchicum, cordials, aromatics, and even stimulants. In such subjects, the extracts or tinctures of rhubarb or aloes are the best purgatives to combine with the colchicum. The compound infusion and tincture of senna may also be tried.

Many persons of gouty or rheumatic habit or diathesis, but who have never had a fairly formed attack of either disease, are subject to innumerable neuralgic affections, of very anomalous and perplexing character. Both patient and practitioner are puzzled, and perhaps alarmed, by them, until either a regular fit of gout, or some rheumatic symptoms, both attended with more or less renal derangement, explain at once, and relieve the preceding obscure and troublesome lesions of sensibility and secretion. A quantity of uric acid is voided, and health is, for the time at least, nearly or wholly restored.

In subjects of this kind, the anomalous nerve-aches referred to may be often removed, and a regular attack of gout or rheumatism prevented (a matter of great importance), by the timely use of colchicum. A little of it should be given nightly, or twice daily, with some ordinary aperient; the neuralgic and other precursory symptoms will subside, and a crisis be averted.

A useful ordinary anti-gout pill (one, we mean, adapted to mitigate an actual paroxysm) consists of perhaps two parts of the extracts of colchicum and colocynth, and half a part of hydrochlorate of morphia; and repeated every hour or two hours, till bowels and kidney are acted on; which occurring, pain subsides.

A solution of any of the preparations of iodine is said to form an antidote to an over-dose of colchicum.

Lancet, Feb. 20, 1847, p. 198.

83.—*On the Effects of Emetics on Young Subjects.*—By Dr. J. P. Beck.—Dr. Beck remarks that children vomit with greater facility than adults, this he ascribes to the more conical shape of the stomach in children, in consequence of which the contents are more readily forced out. Active and debilitating emetics, the author adds, are often injurious; he alludes especially to the antimonial emetics. In the first place, tartar emetic is a powerful *sedative*, and children do not bear well this class of agents. The following are the author's conclusions:—

1. As a general rule we need not be afraid of vomiting the youngest child, provided the means used are mild, such as ipecacuanha, &c. The mere act of vomiting is attended with no danger, while the remedial agency of an emetic is one of great power and value. Besides acting on the stomach, it extends its influence to the mucous membrane lining the pulmonary organs, promoting secretion in the first place, and then aiding in dislodging and ejecting morbid accumulations; accordingly, in pulmonary affections, there is nothing so efficacious.

2. The vomiting induced by the preparations of antimony ought to be resorted to with great caution in very young children, and should never be used except in those cases where a sedative effect is required, and can be borne with safety. Inflammatory excitement ought then always to be present to justify its use in a young child. Where the object is simply to evacuate the stomach, it ought never to be thought of. In such cases as croup and pneumonic inflammation, it may be justifiably and beneficially used. In these cases, it will be found that the system can bear the sedative influence of the article much better than it can in the ordinary conditions of the system. Even here, however, care should be taken not to push the article too far, as dangerous collapse has been known sometimes to be the result.

3. The *continued use* of tartar emetic in young subjects cannot be too specially guarded against. It is in this way, probably, that it is so apt to prove injurious. A single dose, even though it vomits very freely, may be borne with comparative impunity, while the repetition of it may keep up nausea and intestinal irritation, so as to cause injurious prostration. This is very likely to happen in cases of a chronic character, like hooping-cough. Although mild emetics are among our best remedies in this disease, and where the subject is old enough, a single emetic of antimony is frequently exceedingly beneficial, yet the repeated use of antimonial emetics, as is too often the case, appears to me to be a great error in practice. It is not indicated by the nature of the symptoms, and violates a great rule which ought always to be observed in the

Charing Cross Hospital.
Students Room

management of chronic cases, and that is, not to break down unnecessarily the strength of the patient.* Again, in ordinary catarrhal affections in children, a good deal of mischief is frequently done by the continued use of expectorant mixtures containing this active article. The hive syrup of Dr. Coxe, which is now in every family, and is given on the slightest occasions to infants, without even consulting a physician, has, I am convinced, done a great deal of harm. I say this without wishing to undervalue this preparation. In proper cases it is really a useful article, but persons out of the profession ought to know that its principal efficacy is owing to the quantity of tartar emetic which it contains, and that the indiscriminate use of it in cases where mild articles are required, must be injurious.

4. As the effect of tartar emetic on the system cannot always be measured by its emetic operation, even in the adult, this fact ought to serve as a caution against the too common practice of giving repeated doses of it to produce vomiting in children, when they happen to be narcotized. While it fails to vomit, it may still operate as a poison to the system. In all cases of this kind, the proper method of treatment is, not to push the emetic, but to endeavour to restore the sensibility of the patient, and then sometimes vomiting comes on at once.

5. In using tartar emetic in children, especial regard should be had to their constitutions. In those naturally delicate, and especially where the scrofulous diathesis exists, it should never be used if it can be avoided. Prostration is much more apt to ensue in them, and where the article is persisted in for any length of time, is sure to do harm. It is in such constitutions, when labouring under hooping-cough, and where the use of this article has been too long continued, that the baneful effects of it are most strikingly observed.

6. It is, perhaps, hardly necessary to say, that if tartar emetic be an article of such danger, the younger the subject to whom it is given, the more likely is it to do harm. In children under a year, I should say, as a general rule, it ought never to be used. During that period, the powers of life are too feeble to bear so active a remedy at the same time that all the beneficial effects of an emetic may be gained from the use of ipecacuanha, or even milder means. *New York Journal of Medicine.*

Dublin Medical Press, Jan. 20, 1847, p. 44.

84.—*On the Use of Bread.*—By Dr. ROBERT DICK.—In all cases of chronic dyspepsia, more especially if accompanied with a tendency to constipation, the quantity and quality of the bread made use of is a matter not insignificant. There may be, nay, there often is, an abuse of bread. Most dyspeptics, and perhaps persons generally, use an aliment too concentrated. It is deemed, but erroneously deemed, an improvement upon nature to separate artificially, and before use, the assimilable parts of food from the excrementitious; but this is a signal and pernicious mistake, for which thousands or millions are perpetually paying the penalty, in varied forms of dyspeptic disease. It is a bold measure in man to repeal any union instituted by nature, and to say of ingredients which she presents to us intimately, almost inseparably mixed, this will be better if separated from that: this is to be used and that rejected. In cases, indeed, of substances where the union and separation are both merely mechanical, as of the walnut, almond, and chesnut, and their shells, or husks, the separation of the parts is legitimate; but not in such a case as that of separating the fine from the coarse part of the grain of wheat. We may be assured, that as nature gave us these united, there are important reasons why we should use them so.

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* Dr. Armstrong says that "it is a most notorious fact that the hooping-cough is far more fatal in London than in the country; and I believe" he adds, "that this arises from the very free use of antimonial wine in London."—Lectures, p. 248.

I believe, accordingly, that the use of fine wheaten bread, that is, of bread made from the finest part of the ear of wheat, far from being an advantage, is an evil, not the less real that it is insidious; and that in this, as in a thousand other cases, if rightly examined and understood, the necessity of the poor, which keeps them to the use of brown bread, is, by the infinitely wise adaptation of Providence, a blessing, not an evil. The poor man, *without* his brown loaf, has no chance either of health or life; but the poor man *with* his brown loaf may be a healthier man than the wealthy and luxurious with his fine bread.

The use of fine bread and the systematic exclusion of all excrementitious, non-assimilable ingredients, from our articles of diet, is nothing else than an attempt, as it were, to dispense with the function of four-fifths or more of the alimentary canal;—a long and important line of excretion, meant to be continually active; and the torpor of and the withholding from which its appropriate stimulus, (to wit, the excrementitious parts of our food,) cannot but be attended, sooner or later, with serious evils.

Besides this inherent objection to fine bread, the fact that bread of this kind is generally adulterated with alum is an additional ground for disusing it; though this ground of objection would, were the police to do their duty, be easily got over, for the law already prohibits the use of alum. The daily employment, several times, of this salt, in a staple article of food, cannot but be attended with deleterious consequences. No doubt it has its due share in the million cases of dyspeptic derangements which occur; and it is an instance of most culpable remissness in our civil authorities, that they permit the systematic perpetration of a sanatory crime, which the laws have expressly armed them with the power of suppressing and punishing. And when it is known that one, among other objects, for using alum, is to make worse wheat appear better, this is a further reason for the interference of the police.

The acidity of ill-made bread is generally due to the development of lactic or acetic acid.

One of the principal bakers of the metropolis informs me, that in what is called brown bread there is generally included a proportion of rye, and I suspect that brown bread is generally made of inferior flour. Both these proceedings are objectionable, as they lessen the real wholesomeness of genuine and well-made brown bread.

There was proposed, many years ago, and has been again lately, a mode of preparing bread, without making use of the yeast or leaven usually employed to raise the bread, as it is called; that is, to give to it that sponginess of texture which we notice in yeast-mixedbread. The proposal is, to mix the flour with as much carbonate or bicarbonate of soda, and the water to be used with as much hydrochloric acid, as would make the proper quantity of common salt which would be requisite were the bread made in the usual way. The flour and water are then (as I understand the process) rapidly kneaded into dough, during which, from the union of the soda and hydrochloric acid, the carbonic acid is displaced; which then, and during the subsequent baking of the bread, causes, by its expansion, and its retention by the gluten of the wheat, a sponginess in the mass of dough. This is obviously a much less manageable method than the one by yeast and leaven.

Brown bread is to be preferred by sedentary persons, for two reasons; it is in some degree a substitute for that exercise they neglect, and by which the action of the bowels would be promoted; and by its greater proportion of relative bulk to nutritive property, it sooner satisfies the appetite and fills the stomach, without proportionally supplying materials for plethora; both which qualities suit sedentary persons, who, as they take little exercise, should also take little food.

Lancet, Dec. 19, 1846, *p.* 657.

85.—*Nutritive Bread.*—By Dr. R. D. Thompson.—The wheat of England is inferior to that of the continent of Europe. It may, however, be improved by an admixture either with foreign flour or with oatmeal, barley, or beans, and in this state it will be found to form palatable bread. By mixing one third of Canadian flour with two thirds of maize, a very good loaf is produced; and when equal parts of flour and oatmeal, or of barley, or of peasemeal, are employed, palatable bread is the result. Beneficial results would probably follow from the admixture of two or three different kinds of grain, and many of these forms of bread might be substituted with advantage for pure wheat flour in peculiar conditions of the system. When it is proposed to make a loaf of oatmeal and flour, the common oatmeal should be sifted so as to obtain the finest portion of the meal, or it may be ground to the proper consistence. This should be mixed, then, with an equal weight of best flour, Canadian for example, and fermented. If we were to attempt to raise oatmeal (which it appears from the experiments detailed in this volume, is much more nutritive than English wheat) without an admixture of flour, in consequence of the absence of gluten, that principle which retains the carbonic acid of fermentation, we should obtain only a sad, heavy, doughy piece of moist flour. This form of bread, it appears to me, and all who have examined it, would be a great improvement on the hard, dry oat-cakes, so much used in the more unfrequented parts of our country, where the inhabitants have scarcely as yet commenced to share in what are in other localities considered to be necessaries of life.---*Experimental Researches on the Food of Animals.*

Ibid, March 6, 1847, *p*. 269.

URINARY ORGANS.

86.—ON THE MINUTE ANATOMY AND PATHOLOGY OF BRIGHT'S DISEASE.

By Dr. George Johnson.

[At page 114, of Retrospect, Vol. xiii., we gave a long article on the subject of Bright's Disease of the Kidney, embracing the views of several writers. We there also gave a short extract from Dr. Johnson's paper, read before the Medico Chirurgical Society, taken from the Reports of the Medical Gazette. Since that time the New Volume of the *Medico Chirurgical Transactions* gives us Dr. Johnson's views more in detail. From this volume, therefore, we think it well to refresh the memories of our readers on so interesting a subject.

Dr. Johnson finds that the epithelial cells of the healthy kidney contain a variable but minute quantity of oil globules; and supposes that the kidneys, as well as the liver, whose cells also contain these globules serve to excrete fat. He proceeds to say,—]

Bright's disease may be described as *primarily and essentially an exaggeration of the fatty matter which exists naturally in small quantities in the epithelial cells of the healthy organ.* A specimen of the disease in an advanced stage, examined with the microscope, presents epithelial cells in every degree of engorgement, from the incipient enlargement of the particles in which the cell nucleus is still visible, to the complete engorgement of the cell, in which the nucleus is concealed by the fatty globules.

The disease, then, appears to be a fatty degeneration of the kidney, precisely analogous to the fatty degeneration of the liver.

It will scarcely be necessary to remind the reader, that about four years since, Mr. Bowman discovered that in fatty degeneration of the liver, the fat is contained in the secreting cells of the organ; that it is, in fact, an increase of those fatty globules, the existence of which, in small quantities, in the cells of the healthy gland, had been previously discovered by Henle and Mr. Erasmus Wilson.

By examining a section by a low power, it is ascertained that the deposit is contained within the tubes; and by breaking up the tubes and examining them with a higher power, we arrive at a knowledge of the fact, that the fatty material is contained within the epithelial cells which line the tubes.

The presence of oil globules in a free state, or in any other situation than in the tubes, is accounted for by the rupture of the cells and tubes, which probably is a frequent occurrence, in consequence of their over-distension by the accumulated fat.

The accumulation does not take place simultaneously and equally in every part of the tubes. Those portions of the tubes which form the pyramids, and which are lined by epithelium, having more the character of the epithelium lining excretory ducts, than that of the true glandular epithelium, these portions of the tubes, with their lining epithelium, do not become gorged in any great degree, except in cases where the disease has been of long duration. and in which the cortical portion of the kidney has become wasted. In these cases, the epithelium of the cones becomes gorged with fat; perhaps, in consequence of its assuming, in some degree, the function of glandular epithelium, to compensate for the waste of the proper secreting portion of the gland.

Another portion of the tubes, which, according to my observations, seldom contains much fat, is the expanded portion, which, as Mr. Bowman has shown, forms the investment of the Malpighian plexus. Mr. Bowman describes the epithelium of this expanded portion of the tube as extremely delicate, and in some cases scarcely visible, being little more than a rudimentary representative of the epithelium of the tubes. In accordance with this, I have observed that when the tubes are completely gorged with oil, the Malpighian capsules are either entirely free from this material, or they contain only a few particles scattered over their interior: in some cases, one or two epithelial cells may be quite full, but I never observed a complete engorgement of the Malpighian capsule, and I believe it may be stated in general terms that the Malpighian bodies are the parts of the secretory apparatus, in which the deposit is least abundant in cases of Bright's disease. The accumulation of fat within the capsule does not appear to attain such a degree as to exert destructive pressure on the vessels of the Malpighian tuft.

It may now be well to inquire how far the changes which the kidney undergoes during the progress of Bright's disease, and the symptoms by which these changes are attended, admit of explanation.

It will be necessary to consider for a moment the manner in which the vessels are arranged in the kidney, and the nature of the Malpighian bodies, as demonstrated by Mr. Bowman, in his admirable paper, "On the Structure and Use of the Malpighian Bodies of the Kidney." The arrangement of the vessels in the kidney, and the circulation through the gland, may be thus briefly described: a small terminal twig of the artery pierces the dilated extremity of the urinary tube: within the capsule thus formed by the expansion of the tube, the artery breaks up into a capillary plexus, which Mr.

Bowman has named the *Malpighian tuft of capillaries;* these capillaries again unite into a single *efferent* vessel, which passes out through the capsule, and goes to form another plexus, which immediately *surrounds the urinary tubes.* The course of the circulation then is from the artery into the Malpighian plexus, which lies *within* the dilated extremity of the urinary tube, and from this plexus through the efferent vessel into the capillary plexus, which lies *external* to the tubes amidst their coils and convolutions.

Any one having a clear conception of the anatomy of the kidney cannot fail to perceive the effect upon the circulation through the gland, which must result from the changes which I have described as primarily and essentially constituting Bright's disease of the kidney. The fat accumulates in the epithelial cells to such an extent as to produce engorgement and dilatation of the cells, and of the tubes which are lined by them; the consequence is, compression of the capillary plexus surrounding the tubes, giving rise to congestion of the Malpighian plexus. This passive congestion of the Malpighian plexus leads to transudation of the serum of the blood, and sometimes to rupture of the delicate vessels of the plexus, and the consequent escape of the colouring matter and fibrin of the blood. These constituents of the blood pass into the tubes, and so become mixed with the urine. Their escape from the blood-vessels is the result of a mechanical impediment to the return of the blood consequent on compression of the veins by an accumulation of fat in the tubes.

The influence of a mechanical impediment, in giving rise to the escape of serum and of blood, and their appearance in the urine, is admirably shown by the ingenious experiments of Dr. Geo. Robinson, the details of which have been communicated to this Society, and published in its Transactions.

Without anticipating what will presently be said of the pathology of Bright's disease, I will here offer a few remarks on its stages and forms; and, first, I will venture to assert that there is no inflammatory or congestive stage *preceding* the deposit. The congestion which often accompanies the disease, and which is a consequence of previous morbid changes, may be either active or passive. The way in which passive congestion occurs has already been sufficiently explained. Active congestion may be thus accounted for:—a large number of the epithelial cells become gorged with fat, and their secreting function is in consequence impaired: those portion of the gland which are less involved in the disease are now called upon to do an increased amount of work; this may lead to active congestion, and the consequent effusion of serum and blood into the tubes. In many cases there probably exists both active and passive congestion of the vessels; but I repeat that this is the *consequence,* and not the *cause,* of the deposit in the gland.

The *granular and atrophied* (Bright's) kidneys are those in which the accumulation of fat takes place less rapidly and uniformly; some convoluted tubes become gorged with fat, forming prominent granulations; and these, compressing surrounding parts, produce obliteration of the vessels and atrophy of the tubes, and thus the entire gland gradually wastes and contracts. These are the cases in which the tubes of the pyramids become filled with fat, part of which, perhaps, has been carried into them from above, while part is contained in their own epithelium, which, perhaps, (as has already been suggested), assumes a more active secretory office in consequence of the wasting of the cortical portion of the gland.

I do not maintain that every atrophied kidney, and every kidney presenting a granular appearance, have undergone these changes in consequence of fatty degeneration of the gland; on the contrary, I am well aware that many instances of granular and contracted kidneys are met with, in which the degeneration has been of a totally different kind, and I am also in a position to show that these are not cases of true Bright's disease; that they belong to a class of diseases which the best pathologists have always endeavoured to distinguish from Bright's disease, although, in the absence of any accurate means of definition, diseases totally and essentially different in their nature have often been confounded under one name.

Before speaking of the pathology of Bright's disease, it is important to consider briefly the diseases with which it has been found to co-exist. Dr. Bright appears to attach but little importance to the morbid states of the liver, which he considers to be of comparatively rare occurrence in connection with this form of renal disease; but, on the contrary, the observations of Dr. Christison, M. Rayer, and several other pathologists, have shown that some form or other of liver disease is a very frequent concomitant of Bright's disease of the kidney. So far as I have been able to ascertain, no pathologist has given any very definite account of the *kind* of liver disease most commonly associated with Bright's disease.

My own observations have led me to conclude that, in by far the greater number of cases, Bright's disease, or fatty degeneration of the kidney, is associated with a similar fatty degeneration of the liver.

In any attempt to explain the *pathology* of these diseases, their source must be looked for in the processes of digestion and assimilation. The processes of primary or secondary assimilation, or both, fail with regard to this fatty matter, which, not undergoing the changes requisite for its ready elimination from the system, or for its application to the nutrition of the tissues, is thrown into the circulation. An effort is made to carry it off by the liver and kidneys; the fat finds its way into the secreting cells of these glands; its escape from these parts, in a free state, is a slow and uncertain process, and, finding no material in sufficient quantity with which to pass off in a state of combination, the fat accumulates in, and obstructs, the glands.

The increased amount of fat in the secreting cells of the glands must certainly be looked upon as an *effort* to carry off this material. It must also be looked upon as, in a great degree, an *unsuccessful effort.* It will presently be shown that the quantity of uncombined fat in the urine in cases of Bright's disease is seldom greatly increased. As far as regards the result of her effort, then, Nature is as unsuccessful in her attempt to carry off the fat by the glands as to remove it by throwing it into the arteries. In both cases the fat is thrown out of the circulation, but its accumulation in the glands and arteries leads to a serious interference with the functions of these parts.

The conditions under which these diseases occur may be looked upon as analogous to those which give rise to diabetes. In diabetes, in consequence of imperfect digestion or mal-assimilation, sugar is eliminated in various excretions, but especially in that of the kidneys. Again, in the cases in which fatty degeneration of the liver and kidneys occurs, an effort is made to eliminate fat; the sugar being soluble, is readily carried off; the fat being insoluble, and consequently difficult of elimination, accumulates in the secreting cells of the glands.

[Dr. Johnson doubts the correctness of the common opinion that Bright's disease may originate in the dropsy which follows scarlatina. He says:]

I look upon the dropsy occasionally arising during or after an attack of scarlatina, as the result, *partly*, of the cutaneous disease, but *chiefly* of some *materies morbi*, striving for elimination by the kidneys no less than by the skin; and which, in its passage through the former organs, acts as an irritant, giving rise to active congestion of the kidneys, and the consequent effusion of serum and blood into the urinary tubes.

In the *treatment* of Bright's disease, with its many complications, it must not be forgotten that the renal disease is a local manifestation of a general constitutional disorder, the removal of which must be attempted, not by the exhibition of violent and depressing medicines, but by strict attention to all those circumstances which are commonly included under the term "hygiene." Pure air, regular exercise, attention to the proper cleanliness and temperature of the skin, with the administration of chalybeate, and such other tonics as circumstances may seem to require—these are the means best calculated to invigorate the system, and so to restore the healthy balance of the functions. In addition, the diet of such patients will require careful regulation; and as a diabetic patient would be cautioned against the use of sugar, so, on the same principle, should the subject of these fatty degenerations be directed to abstain from a fat diet, and from an excessive use of such materials as starch and sugar, which seem difficult of digestion, and which may, perhaps, by a slight chemical change, be converted into fat.

The kidneys will require some special treatment, with a view to relieve congestion, which necessarily interferes more or less with the function of the gland, if it do not increase the tendency to fatty accumulation. The best means of relieving the congested condition of the kidney will be the regulation of the functions of the skin and bowels. Local bleeding may sometimes be called for, and it is a measure often followed by great relief and a manifest improvement in the secreting power of the kidney; but in the use of this measure we must exercise that degree of caution which is required of us, when we remember the pathological history of the disease with which we have to deal.

I take this opportunity of mentioning that my friend and former fellow-student, Dr. Inman of Liverpool, has compared the specific gravity of the healthy kidney with that of kidneys affected with Bright's disease. The average sp. gr. of the healthy kidney he finds to be about 1046; while in Bright's disease he has found the sp. gr. as low as 1015.

If the object of the preceding pages has been accomplished, I hope to have established, to the satisfaction of the Society, the following points:—

1. That the epithelial or secreting cells of the healthy kidney contain a certain quantity of oil; the proportion of which, under certain circumstances, and within certain limits, may fluctuate considerably.

2. That it is an excessive increase of this fat, leading to engorgement of the epithelial cells, and of the urinary tubes, which constitutes primarily and essentially Bright's disease of the kidney.

3. That the presence of albumen and blood in the urine, and the wasting of the tissue of the kidney, are secondary phenomena, dependant on the mechanical pressure of the accumulated fat.

4. That in the majority of cases, Bright's disease is associated with a similar fatty degeneration of the liver and arteries, and frequently of the valves of the heart; these diseases being related to each other as joint effects of one common constitutional cause.

5. That probably acute inflammatory dropsy, occurring in a person previously healthy, and the dropsy which occasionally supervenes upon scarlatina have no necessary connection with Bright's disease of the kidney.

6. That most important evidence of the approach and presence of the renal disease may often be derived from a microscopical examination of the urine, in which will be found fat in unusual quantity; partly in the form of free oil globules, and partly contained in epithelial cells which have escaped from the urinary tubes.

7. That the insight which we have obtained into the peculiar change which the kidney undergoes in Bright's disease, and the knowledge we possess of the simultaneous occurrence of a similar change in other organs, may serve as important guides in the prevention and cure of the disease.

In conclusion I have to state, that at the commencement of August, when my paper was received by the Society's Secretary, I was not aware that any observations on the minute anatomy of Bright's disease, in any degree resembling my own, had previously been published; nor at the very full meeting of the Society in November, when my paper was read, did any one present appear to be aware of the fact that, so far as regards the mere sight of fat in some cases of renal degeneration, I had been anticipated by more than one observer. The most important observations with which

I am acquainted are those of Hecht (de renibus in morbo Brightii degeneratis; Berlin, 1839), Gluge (Anat. Microsc. Unters ; Jena, 1841), Henle (und Pfeufer, Zeitschrift für rationelle Medizim 1842), Canstatt (de morbo Brightii; Erlangen, 1844), and Eichholtz (Müller Archives, 1845; and Medical Gazette, 1845). The above-mentioned authors agree with each other, and with myself, in the simple and very obvious fact, that, in some cases of renal degeneration, fat in large quantities is contained in the substance of the kidney: as to the situation of the fat, and the interpretation of the whole phenomena of the disease, I believe my own views differ essentially from those of any preceding observer.

Medico-Chirurgical Transactions, 1846, *p.* 1.

87.—*On the Pathology of Bright's Disease.*—By JOSEPH TOYNBEE, Esq., F.R.S., Surgeon to the St. George's and St. James's Dispensary.

Previous to stating the result of my own investigations into the pathology of Bright's disease, I am desirous of making a few observations on the recent researches of which it has been the subject, more especially in this country.

There appears to be no doubt that the true cause of this disease is the circulation in the blood of the organ, of an unnatural large quantity of carbonized and azotized elements. The condition may exist in two widely different cases.

1st.—Among the richer classes of this country, where the mass of the blood may become supercarbonized in connection with a full habit of body, food too nutritious, and deficiency of exercise.

2nd.—Among the working classes, from want of sufficient oxygen in the air of their close and ill-ventilated abodes, to decarbonize the blood in the lungs, and the constant use of fermented and spirituous liquors.

It has been proved that the ultimate effect of this supercarbonized state of the blood, is the deposition, in the kidney, of adipose matter. In the words of Dr. Johnson, "Bright's disease may be described as primarily and essentially an exaggeration of the fat which exists naturally in small quantities in the epithelial cells of he healthy gland."

Many observers in this and other countries have noticed the presence of an unusual quantity of fat in the kidney as characteristic of Bright's disease; and among my own notes there are drawings, made four or five years ago, of the oily globules found in the tubuli. But these and all other researches on this point must now be considered as supplementary to, and confirmatory of, the view advanced by Dr. Johnson in his elaborate and comprehensive paper, read during the present session, and which appears to me to be the only account which exhibits the disease in its true relations.

In the observations which will presently be submitted, I have divided the disease into three stages, each of which is founded on certain pathological conditions of the organ; but antecedent to the development of the phenomena peculiar to any of these changes, there are grounds for believing that the organ is for some time in a state of congestion.

Dr. George Robinson, in his very interesting and valuable contribution towards a knowledge of this disease, has clearly shown that a congested state of the blood-vessels of the kidney gives rise to albuminous urine; and he concurs with Dr. Bright, and many other observers, in thinking that this condition precedes the other stages of the disease. From this conclusion Dr. Johnson differs, for he states, "There is no reason for believing in the existence of any congestive stage as necessarily preceding any morbid change." Now, considering that in this disease the blood is highly charged with carbonized principles, and, consequently, that in its circulation through the kidney, that organ must be called upon to throw off a larger quantity of carbonaceous matter than the natural secretion would contain, an amount of irritation will be excited which must be followed by nervous depression and ultimate congestion of the entire organ. This general view, combined with the results of my investigations into the early stages of the disease, induces me to agree with Dr. Bright, and others, that the congestive condition of the blood-vessels of the organ does precede, and that necessarily, the deposition of fat, the enlargement of the organ itself, or of its uriniferous tubes, or of any other of its vessels.

The cause of the presence of albumen in the urine is acknowledged to be an obstructed condition of the blood-vessels of the organ. Dr. Johnson considers the obstruction to arise from a deposition of fat in the tubuli uriniferi; but there can be no doubt that albuminous urine often exists without any such deposition.

The first stage of the disease.—In this stage, the kidney is enlarged, and innumerable black points are visible, which are the corpora Malpighiana dilated, and their vessels distended with blood, seen through the capsule. The white spots, which derive their appearance from the collection of fatty matter, begin to be perceptible.

The peculiar features of this stage consist of an enlargement of the arteries entering upon the corpora Malpighiana; the dilatation of the vessels of the tuft, the capillaries and the veins; an increase in the size of the capsule of the corpus and of the tubuli, and a large addition to the quantity of the parenchyma of the organ.

The condition of the arteries is visibly changed, even at this early period: the artery entering the corpus being actually twice or thrice its natural size, which is the case also with the Malpighian tuft and the capillary vessels which spring from the tuft. An injection, in this stage, cannot very easily be made to pass through the tuft and fill the capsule of the corpus,— a circumstance which almost always attends injection in the later stages of the disease.

The capillaries and veins are greatly enlarged, giving to the surface of the organ the resemblance of network. This is the commencement of the stellated condition, which is so marked a characteristic of the next stage of the complaint.

The tubuli in this stage are also much increased in their dimensions; but the fat which is found in them is soft and white.

The second stage of the disease.—The organ in this stage is very greatly increased in size, its surface is smooth, and presents numerous white spots; the capsule is but slightly adherent to the surface, and the tissue of the organ is flabby.

The structural changes exhibited during this stage are the following:—

1st.—The artery of the corpus Malpighianum becomes so greatly enlarged, that frequently it equals the dimensions of the tube itself, and is eight or ten times its natural size. It is tortuous and dilated, and sometimes, previous to entering the capsule of the corpus, presents analogous swellings to those of varicose veins. The primary branches of it, in forming the tuft, are also distended to ten or fifteen times their natural size, and are not unfrequently discovered external to the capsule of the corpus, as though thrust out by some internal force. The vessels forming the tuft are likewise enormously enlarged, and very often the minutest branches are fully as large as the main artery of the corpus in a healthy state.

Occasionally the tuft is broken up, and instead of forming a compact mass, exhibits its individual branches separated from each other. At other times the branches of the tuft are actually larger than the primitive artery of the corpus. Under these circumstances it is singular that Mr. Bowman should have made the following remarks: "Though I have examined, with great care, many kidneys at this stage of the complaint, I have never seen, in any one instance, a clearly dilated condition of the Malpighian tuft of vessels." He adds, "On the contrary, my friend Mr. Busk, an excellent observer, has specimens which undoubtedly prove these tufts not to be dilated in the present stage; and I possess injected specimens showing them at all stages, but never above their natural size." It is very possible that the peculiar injection used by Mr. Bowman may account for the fact which he mentions, and this conjecture is rendered extremely probable, as in the latter stages of the disease the Malpighian tuft becomes pressed upon by the adipose accumulation within, and, after undergoing compression, will permit the fluid used in the process of double injection to pass through rather than yield and distend. There are instances again in which the tufts are not enlarged; but appear healthy even in organs otherwise extensively diseased: but it is important to add, that these tufts, both in the second and third stages, when but slightly enlarged, or even not enlarged at all, will offer free passage to the injection, on the most gentle pressure, without even distending the whole of their vessels, and thus indicate their diseased condition.

An enlargement of the renal arteries and dilatation of their branches are also observable in this stage of this disorder.

The capsule of the corpus, too, is in this stage very greatly increased in size, and during the process of injection becomes frequently filled with the injection thrown into the arterial system. Although thus enlarged it does not become ovoid, put presents slight bulgings in several parts.

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The tubuli differ considerably from their healthy condition, being enlarged to two or three times their natural size, and aggregated together in masses, so as to lie in contact with each other, and form definite, roundish bodies: they are also extremely convoluted with numerous dilatations; frequently they are varicose. At other times they present distinct aneurismal sacs, which bulge out from one part of the wall of the tube, to which they are attached by a small neck or pedicle. Occasionally, some of the vessels of a convolution are smaller than the others, and their size nearly natural. The tubuli in the masses are so closely packed, that the blood-vessels are evidently compressed, and rendered incapable of admitting an injection. At times a tube even at some distance from the corpus, becomes very convoluted, and knotted into a mass.

Parenchyma.—In cases where the kidney is much enlarged, the parenchymatous cells will be found not merely increased in size, but adipose depositions will be visible throughout them.

The third stage of the disease.—The kidneys are smaller than their natural size; hard, white granules are prominent on their surface, which is more or less lobulated; the capsule is adherent; vesicles of large size are frequently everywhere interspersed; and numbers of smaller ones stud the whole surface. On making a section, the organ is found to be deprived of blood; the cortical part contracted, the blood-vessels large, and their walls thick.

Arteries.—The arteries are in a more contracted condition than that described in the second stage; and the Malpighian tuft is so often changed from its natural state, that the greater part of its vessels are not capable of being injected.

The capsule of the corpus has assumed a more contracted appearance.

The arteries in this stage are so difficult to inject, that some anatomists have denied the possibility of the operation. The difficulty has its origin in the great pressure, which is exerted on the whole of the arterial system, by the contraction and hardening of the organ.

Veins.—The veins in this state present on the surface of the organ the well-known stellated aspect which arises from the gradual pressure exerted on the trunks, and the contraction of the organ.

Tubuli.—The tubuli are larger than in the preceding stage, and are gathered into rounded masses, which form the granules on the surface of the organ. The latter are of a white hue, and are most commonly fully distended with fatty depositions; though not unfrequently they appear like dark spots: the tubuli in that case being full of blood. A rounded appearance is generally characteristic of the granules, in each of which the component tubule forms innumerable convolutions. It is extremely difficult to inject the tubuli from the ureter; indeed it is very rarely that it is possible to distend them from this source; nor is it an easy matter to fill them from the artery, though my efforts have not been without success. The tubuli are filled with oily cells, granular matter, particles of various sizes, and blood globules.

Parenchyma.—The parenchyma is hard, and is composed of elongated stellated cells, from the angles of which fine threads proceed, and communicate with each other.

The nature and causes of the disease which has been under consideration, having now been tolerably well ascertained, professional duty demands the further very interesting enquiry, whether means can be adopted by which the development of the disease may be prevented.

Among all classes the use of a less stimulating diet,—whether the stimulus arises from the excess of nutritious solids, as in the upper classes,—or from improper food and the abuse of intoxicating beverages, as in the working classes,—is one of the remedies whose obviousness renders all reasoning superfluous.

Vigorous and regular exercise in pure air, and daily ablutions of the entire body, as promoting digestion and secretion, increasing the respiratory efforts to decarbonize the blood by the lungs, and the transpiratory excretions of the skin, will also be most valuable auxiliaries.

But among numerous bodies of the population, and especially among the labouring classes, other causes demanding other remedies would appear to be in operation. Dwellings badly built and drained, situated in close, confined, and densely-populated localities, deprived of light, and constantly containing an impure air, exercise a very deteriorating influence on the physical condition of a large proportion of the industrious classcss, and they are especially active in the production of the disease, which has formed the subject of this paper.

[By referring to Retrospect, vol. xiv., p. 97, the reader will find that these views of Mr. Toynbee are not agreed with by Dr. C. J. B. Williams, nor by Dr. R. Quain.]

Medico-Chirurgical Transactions, 1846, *p.* 318.

88.—ON THE SOURCE OF FAT IN ANIMALS.

By Dr. R. D. Thomson, Lecturer on Chemistry in the University of Glasgow.

[This subject is interesting with reference to the treatment of fatty kidney and liver, recently brought before the profession so prominently by Dr. Johnson and others. If we know the best method of avoiding the formation of fat we may gain an important step in the cure of Bright's disease.]

The idea which is now entertained by physiologists, that the muscular part of the animal frame is derived from the albuminous constituent of the food, was clearly pointed out by Beccaria in the year 1742 (Histoire de l'Academie de Bologne, Collect. Acad. xiv. 1): he demonstrated that the flour of wheat contained two characteristic ingredients, which, on distillation or digestion, afford products totally dissimilar to each other. One of these, which he termed the starchy part, resembles in its constitution, vegetable matters, and supplies analogous products. Vegetables, he says, may be recognised by their fermenting and yielding acids, without exhibiting symptoms of putrefaction. The glutinous part of flour, on the contrary, resembles animal matter, the distinguishing feature of which is its tendency to putrefaction and conversion into a urinous (ammoniacal) liquid. "So strong," he adds, "is the resemblance of gluten to animal matter, that if we were not aware of its being extracted from wheat, we should not fail to mistake it for a product of the animal world." To convince ourselves of his thorough identification of gluten and animal muscle, it is only necessary to quote his query, "Is it not true that we are composed of the same substances which serve as our nourishment?" The same doctrine has been taught and practised in this country for upwards of twenty years by Dr. Prout, without any knowledge of Beccaria's views, and is now almost universally received by European physiologists, although the true authors may not always have been recognised.

With reference to the source of the fatty and oily matters which enter into the constitution of the animal system, much discussion, it is well known, has recently been carried on by Liebig and Boussingault; the former considering that they may be derived both from oil and starch, while the latter at one time was inclined to attribute the origin of fat in animals entirely to the oil contained in the food.

[From some experiments Dr. Thomson concludes that]

When grass was employed as food, there was much more wax in the food, than wax excreted and butter in the milk; but as soon as soon as hay was substituted for the grass, the butter and the wax in the dung together exceeded the amount of oil in the grain and wax in the hay. These facts appear to demonstrate that the butter is not derived from the oil or wax; the latter in hay and grass being a green substance, bearing no resemblance to an oil. We see in the six latter experiments, that while the food contained about 101 lbs. of wax and oil, the dung contained $52\frac{1}{2}$ lbs. of wax, or half of that contained in the food; the amount of wax and oil in the dung and butter exceeding that in the food by nearly 24lbs., or about one-fourth part. As the experiments from which these numbers are deduced were made upon a large scale, during a period of three and a-half months, with every attention to accuracy, we think it may be legitimately inferred that the oil of the food alone is not sufficient in amount to account for the production of oily matter in the cow.

That the systems of animals are capable of sustentation by a supply of fibrinous matter almost alone, is obvious from the history of the primitive inhabitants of the prairies of America. It is stated on good authority (Catlin) that there are 250,000 Indians who live almost exclusively on buffalo flesh during the year. The fresh meat is cut in slices of half-an-inch in thickness across the grain, so as to have fat and lean in layers, and is hung up, exposed to the sun, and dried. Upon the food, which is pounded and eaten sometimes with marrow, the wild hordes of the West are not only nourished, but it is obvious that the heat of their bodies is kept up; since they taste no vegetable food whatever. Fibrin, is therefore, we infer, *calorifiant*, or alone capable of producing animal heat, This conclusion we also deduce from the experiment in which a dog was fed for some weeks on the glutinous matter of flour (Magendie). And it may be further concluded that fibrinous or albuminous matter, when given alone, is partially converted into carbonic acid, and is removed from the system during the process of expiration. But it would appear from a consideration of the experiments which have been made on the nutrition of animals with pure fibrin, that an auxiliary in the production of animal heat is either indispensable or highly advantageous, since animals fed on fibrine alone invariably declined in health (Magendie); and the American Indians have a certain admixture of fat with their dry meat, and are in the habit likewise of using marrow with it.

Medico-Chirurgical Transactions, 1846, *p*. 327.

89.—*Albuminuria Treated by Vapour-Baths, and Extract of Rhatany.*—By M. Rayer.—[The patient had been the subject of anasarca for fifteen years, with an exception of a short interval, when the symptoms had been relieved by the warm baths, aromatic fumigations and iodide of potassium. In the beginning of last December he presented the following symptoms:—]

The legs and scrotum were considerably infiltrated, and ascites was present: a general sensation of lassitude, and pain in one, sometimes both sides of the abdomen, were complained of; the bowels were confined, the appetite preserved, and frequent paroxysms of cough were observed; the urine was pale, slightly acid, abundant, and contained a large quantity of albumen—coagulable by heat and nitric acid. Every day ʒ ss. of extract of rhatany was exhibited in a mixture; vapour baths were ordered, and low diet. Under the influence of this treatment, a gradual amelioration occurred, and on the 10th of January the urine contained no more albumen. On the 12th the patient left the hospital, if not completely cured of his renal disease, at least cured of the symptoms which he had laboured under, and which are generally looked upon as characteristic of granular disease of the kidney.

Medical Times, *Jan* 30, 1846, *p*. 344.

90.—*On the Elimination of Nitrogen.*—By Professor Dumas.—[The nitrogen of the food is chiefly eliminated by the urine; and as to the mode of this, Professor Dumas thus speaks:—] .

A healthy man excretes, daily, from fifteen to sixteen grammes, (about half an ounce), of nitrogen by the urine: that is to say, the greater part of the nitrogen which is absorbed from the aliments in the course of the four-and-twenty hours. This nitrogen is eliminated in the form of urea, (the only important azotised matter existing in the human urine), which is contained largely in the urine found in the kidneys, and therefore with still greater reason in that which has dwelt for some time in the bladder.

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The first question which presents itself, as a consequence of the foregoing views, may be put in the following form:—Where is this urea manufactured? The kidney separates it; but does it follow that it is formed within the structure of this organ?

It is impossible, in fact, to conceive this organ capable of manufacturing the urea—to suppose that it has the power of daily destroying or reducing to their original elements, 100 grammes of dry azotised matters. But, if we allow that the production of the urea takes place in the current of the blood, then the function of the kidney is easily comprehended: it is to the urea what the lung is to carbonic acid—an emunctory, or organ of elimination. Now, if we examine the blood of a healthy animal, we shall doubtless be surprised, after what I have just said, to find that it does not contain a trace of this substance; at least, no one of the chemists who have examined this fluid has been able to discover any in it. One would certainly be apt, under such circumstances, to draw a conclusion contrary to the foregoing opinion; but a very simple experiment, which I performed with my friend the learned Provost of Geneva, goes far to resolve this difficulty. In the first instance, we removed one of the kidneys of a dog, and, when the animal had entirely recovered, we excised the other. With one kidney the dog lived; but after both had been removed it presented morbid symptoms of a most intense character, and died about the third day. Some of the dogs on which we operated lived for eight days after the removal of both kidneys, but this was very rare. On drawing blood from the animals at a favourable opportunity, and afterwards examining this fluid, a remarkable quantity of urea was found in it. These experiments have been repeated by Segalas, Vauquelin, Tiedemann, and others, with a similar result. We are, then, inevitably led to the conclusion, that the urea is formed independently of the kidneys, in the same way as the carbonic acid and water are formed independently of the lungs; that, in fact, all the urea rejected by man is produced in the current of the blood by the process of respiration: that is to say, by that slow combustion which takes place there, and of which the products are carbonic acid, water, urea, biliary matter (which we shall find presently as one of the constituents necessary to digestion), and some other substances met with in various special organs.

I believe we may, with reason, allow that the economy eliminates the nitrogen taken in the aliments by four different ways:—1st. By the secretion of mucus. 2nd. By the bile and the excrements. 3rd. By the lungs and the skin. 4th. By the principal emunctory of nitrogen from the system—the kidney. The three modes first enumerated eject but a very limited quantity.

Let us now examine under what form nitrogen is chiefly eliminated. We have already stated that it is as urea. This substance exists as well in the urine of the kidney as in that of the bladder, and also in urine when fresh voided; but when this liquid has become putrid we can no longer find it there; it has disappeared, and in its place we have carbonate of ammonia. In fact, if we pour a little acid into putrified urine, there is immediately disengaged a considerable quantity of gaseous fluid, which is nothing more than carbonic acid; on adding to this some alkali, as potass or lime, litmus paper, which had been previously reddened, reäcquires its blue colour. A glass rod, moistened with hydrochloric acid, when exposed to the vapours which escape from the vessel, is surrounded by a thick cloud, owing to the formation of sal ammoniac. Thus, the transition or metamorphosis of the urea which is found in the bladder into carbonate of ammonia, is attended by phenomena every way deserving our attention.

If we leave urine to itself for a short time, it becomes the seat of a second process of vitality—a species of fermentation, which is the result of the life of certain beings capable of existing in this medium. It is, then, by a more lengthened series of the phenomena of life that this transformation is effected. By prolonging vitality, as we have several times repeated, nature does but bring the materials of which the living being is composed back to their original constitution:—water, carbonic acid, ammonia. There is then a general process of vitality, which takes place beyond the body of the animal. Life has a fixed term; and the animal dies when its organs have no longer the power of resisting their resolution into carbonate of ammonia. Nature seeks, therefore, to effect these purposes beyond the body of the animal.

Medical Times, Jan. 2, 1847, *p.* 256.

91.—ON DIABETES.

By M. Bouchardat.

(Translated by Alfred Markwick, Esq.)

[The reader will find in 'Retrospect,' Vol. xiv., p. 105, an article on Diabetes, by Bouchardat, in which is given an epitome of his views. In the following abstract will be found some of his remarks more in detail:—]

A circumstance which has been already alluded to by several authors, and which I have constantly remarked, is, that when the diabetic patients are at the height of their malady, their appetite is truly extraordinary, and their ardent thirst is always in a direct ratio with the quantity of food they take. Another circumstance which has not been sufficiently insisted on, is the great desire shown by diabetics either for sugar or for bread, or the other feculent aliments. I have noticed this predisposition in all those in whom the disease was very severe, and it was by reflecting on this subject that I have discovered the following theory of diabetism:

The presence of starch sugar in diabetic urine is owing to the transformation of the fecula into starch sugar in the same manner that we may effect it in our laboratories.

There exists in the economy of diabetic patients a principle which has on starch a very similar action to that of diastase.

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Experiments have proved to me that yeast, gluten, albumen, and fibrine, in certain modified conditions, which I have elsewhere alluded to ('Recueil des Mémoires du Concours de la Societé de Pharmacie sur la Fermentation Acide',) might have on starch, an effect exactly similar to that of diastase; these principles meet with the starch in the stomachs of diabetic patients.

I have constantly remarked, in all the diabetic persons I have seen, that the quantity of sugar contained in the urine was always in a direct ratio with that of the bread or the feculent or saccharine food they had taken in the twenty-four hours. If the amount of this saccharine or feculent food be diminished, the proportion of urine excreted, and of sugar contained in it, will diminish in a corresponding degree.

By suppressing almost entirely the use of this kind of food, the urine gradually becomes natural, both in quantity and composition.

The thirst of diabetic patients is in a direct ratio with the saccharine or feculent food they take. I have noticed that for an amount of food equal to one kilogramme of fecula (rather more than two pounds English) they generally drink about seven kilogrammes of water, and void nearly eight of urine.

If the saccharine or feculent aliment be diminished or suppressed, the thirst immediately takes a proportionate retrograde step. One of the patients, whose case I have detailed, was much surprised to find that his excessive thirst had entirely left him since he had abandoned saccharine and feculent food, and had confined himself to roast beef and ham; the popular theory regarding the substances that are looked upon as giving rise to thirst being thus but too evidently at fault; and, in order to fully convince him of this fact, it was necessary for him to take, during one day, the same quantity he had been accustomed to of saccharine or feculent food, in order to find the ardent thirst and the constant desire to make water reappear a few hours after, which for three years had made his life miserable.

The excessive thirst with which diabetic patients are tormented meets with a very satisfactory explanation in the facts we are acquainted with relative to the action of diastase on starch. In order that the transformation of the starch into sugar may be complete, the fecula must be dissolved in about seven times its weight of water. A phenomenon similar to this is observed in diabetic patients: in order that the starch may be transformed into sugar, which is a necessary result of the disease, seven parts of water are requisite, and until this quantity has been taken they are tormented by a thirst which it is impossible for them to resist.

The theory I have just exposed is based on so many facts and on so many experiments, varied in every possible way, that I consider the two following propositions as the exact expression of the truth:—

1. In diabetic patients the thirst is in a direct ratio with the quantity of saccharine or feculent food they take.

2. The proportion of glucose contained in the urine is in constant relation with the proportion of feculent or saccharine food.

On the Substitution of Fatty and Alcoholic Matters for the Feculent and Saccharine.—Some persons have had but a very imperfect idea of my writings on Glucosuria; some physicians, and among them those who ought to have the best appreciated my researches, have made it appear that my mode of treatment consisted principally in the adoption of an exclusively animal diet. Nothing is less exact, and I trust in the course of this memoir to clearly prove it.

The point on which I have principally insisted, and which, indeed, ought first to excite attention, is the relation between t h feculent matters ingested, and the glucose voided in the urine; it is the urgent necessity for diabetic patients to suppress, or at least to greatly diminish, the amount of feculent food; but what is of equal practical importance, is the necessity for replacing the hurtful feculent aliment by other kinds of food of the same physiological order.

Feculent and saccharine matters belong to that class of substances which are called the aliments of respiration; it is therefore indispensable to select from this same class, food capable of replacing the feculents, which the diabetic patient cannot make use of, owing to certain physiological conditions that I shall allude to by-and-by. The alcoholic drinks and fatty matters are the substances I have had recourse to, and the employment of which I have always recommended.

It appears from some experiments related in the memoir on the Digestion of Alcoholic Substances, by M Sandras and myself, and from other unpublished labours, that when alcohol, glucose, or dextrine, and oils, are simultaneously introduced into the stomach, the alcohol is the first to disappear, then the glucose or the dextrine, and, lastly, the fatty matter ingested. Feculents, therefore, furnish a food which remains longer in the blood than the alcoholics, and not so long as fatty bodies. When feculents cannot be usefully employed in nutrition, they cannot be entirely replaced by alcoholics, owing to their useful effect being too rapidly exhausted; neither can the preference be given exclusively to fatty bodies, inasmuch as in man their destruction is too slow, and the quantity the lacteals are capable of taking up in the intestines is not sufficient to entirely replace the feculent matters. From these facts it follows that it is necessary to combine, in proper proportions, fat food with alcoholic drinks, in order to supply the place left vacant by the feculents. Still it must not be imagined, and I wish to strongly impress this on the mind, that these substances ought to be exclusively employed in the alimentation of patients labouring under diabetes mellitus; they ought merely to be used as a substitute for feculent food, and that is all, and should be combined in reasonable proportion with the reparatory aliment contained in the protein compounds, such as meat, eggs, &c.

I have only now to state the proportion and the nature of the alcoholic drinks, and of the fat food, which may be ordered for the twenty-four hours for an adult affected with glucosuria.

As alcoholic drinks I have always given the preference to the red wines of Bourdeaux and Burgundy, of good growth and year, and at least four years of age. The stomach bears these wines better in rather large proportion than any other I have employed, and the principles associated with the alcohol in them are not without their utility; I have always found it better to keep to one wine, than to vary it. The exclusive employment of good *ordinaire* wine to which one is accustomed has appeared to me to be of great service.

The quantity of wine I have generally considered necessary has varied, according to the patient, from one to two quarts in the twenty-four hours; some have been able to exceed this amount; not only did they experience no inconvenience, but they found their strength rapidly increase. The mean quantity for men in the twenty-four hours is six pints [?] Admitting that the wines just mentioned contain ten per cent. of alcohol (which is according to the analysis made of them), we shall then have 150 grammes of alcohol consumed in the twenty-four hours. This quantity appears to me sufficient to replace the useful effect of feculents, especially if fatty bodies are also used in the diet.

Medical Times, Jan. 30, 1847, *p.* 341.

92.—*On Diabetes.*—By Dr. RICHARD CHAMBERS, Physician to the Essex and Colchester Hospital.—[Seven cases of diabetes, out of eight attended by Dr. Chambers, during the last three years, have died from phthisis. And from its generally attacking persons of strumous diathesis, he considers diabetes to be "one of the various ways in which tubercle develops itself. As to treatment, Dr. C. says,]

The medicines from which I have found most *(although but temporary)* relief are, Dover's powder in moderate doses at bed-time, the carbonate of ammonia in ten-grain doses three times a day, and occasionally the vapour bath; I have also used quinine, acetate of lead, and alum, but with no appreciable benefit. As regards diet, it will be desirable to avoid saccharine and farinaceous articles as much as we can; but in actual practice it will be found that we can exercise but very little influence over our patients in the matter of their diet. From what I have seen of the use of cod-liver oil in strumous disease, I should be disposed to expect considerable benefit from it in diabetes, if we have an opportunity of administering it in the onset of the disease. It deserves attention, both for its medicinal and dietetic properties; it ministers powerfully to nutrition, and by its alterative properties appears to modify the whole character of the strumous habit. I have not had an opportunity of testing its merits in this disease since the remedy attracted my attention; but I shall indeed be very much deceived if it does not prove of great benefit, even should it not altogether cure the disease.

Provincial Medical and Surgical Journal, Dec. 30, 1846, *p.* 618.

93—*On the Treatment of Diabetes.*---By M. MIALHE.---It is well known that glucose or grape-sugar, when pure, has no effect on the salts of copper; but when it is brought into contact with an alkaline substance, it acquires the property of being consumed by the action of oxygen in the blood, and becomes capable of decomposing the oxide of copper, which it does by withdrawing the oxygen and setting the metal free. That the alkali is concerned in this reaction on the copper, is proved by the fact that, if liquor potassæ which has been added to glucose, for the purpose of effecting these changes in it, be neutralised, the glucose ceases to retain its acquired property of a combustible body, and of reducing the oxide of copper. Experiments have shewn, on the other hand, that by the process of assimilation which takes place in the animal body, starchy principles of food are speedily transformed into glucose, and that this latter, by the action of oxygen received into the blood during its passage through the lungs, is eventually converted into carbonic acid, which is exhaled during respiration.

Reasoning from these facts, M. Mialhe was led to the opinion that in diabetes the secretion of glucose by the kidneys and other parts is the consequence of there not being a sufficient quantity of alkali in the body to convert into combustible matter the glucose derived from the starchy principles taken into the system with the food. The possibility of this hypothesis being correct has received abundant evidence from the results afforded by the treatment of diabetes with alkalies. M. Mialhe, in carrying out this treatment, also allows to his diabetic patients those forbidden articles of food, such as bread, potatoes, and other like substances, containing amylaceous principles, for which there is usually such a craving demand on the part of patients suffering from this malady. He neutralizes the ill effects which would otherwise probably result from such indulgence, by a free use of alkalies, to transform the resulting glucose into a form in which it may be acted on and consumed by the oxygen absorbed through the lungs.--- *Gazette des Hôpitaux*, 1st Oct. 1846.

Medical Gazette, Nov. 6, 1846, *p* 990.

94.—*On the Detection of Sugar in the Expectoration of Patients affected with Diabetes.*—By Dr. Francis, of Manchester.—Dr. Francis presented to the Manchester Pathological Society a specimen of sugar which he had obtained, a few days previously, from the expectoration of a man the subject of diabetes mellitus.

The patient, aged 25, for upwards of a year suffering the ordinary symptoms of this disease, and at present much wasted in flesh, had, during the last six months, shewn signs of advancing pulmonary phthisis. The expectoration latterly had amounted to little less than 24 ounces daily, and, on the day which furnished the specimen submitted to examination, had even exceeded that quantity. It was composed of an abundant white, frothy, tenacious mucus, holding in suspension little rounded masses of opaque yellow material.

In order to the detection of sugar, the expectoration was, first of all, treated freely with strong alcohol, which coagulated much of the albuminous matters. Distilled water was then added, and after agitation and digestion for a short time, the whole was thrown upon a filter, and a clear watery fluid readily passed through.

A small portion of this fluid reduced the protoxide of copper, when tested after the manner recommended by Trommer, and another portion underwent fermentation over mercury.

The remainder was evaporated in a water-bath to dryness, the residue broken up into fragments, and digested for several hours in alcohol, which was then filtered. The alcoholic solution thus obtained was of a yellowish tint, clear, and decidedly sweet to the taste. On evaporation, it left the considerable quantity of sugar now produced to the Society, and which was found partly crystalline, of a rich sienna brown colour, strong honey-like odour, and intensely sweet taste.

A fluid ounce of the expectoration, after dilution with water, yielded by fermentation a trifle more than 2½ cubic inches of carbonic acid, which would be equivalent to 2½ grains of sugar, or 50 grains to the imperial pint.

The urine passed at the time of the examination contained sugar; its specific gravity was 1032, and its average standard for some days had been about 1035. The quantity passed was much less than formerly.

Dr. Francis had detailed at length the account of the process he had used, because, so far as he knew, the presence of sugar in the expectoration of diabetes had not previously been sought; at any rate, he could find no allusion to the subject in the Sydenham Society's edition of Simon's Animal Chemistry, which, with the notes of its accomplished editor, may be assumed to have brought our knowledge in such matters up to the present time.

In addition to the above case, he had, within the last two days, had the opportunity of examining the expectoration of another man who was under treatment two years ago with diabetes, and who, in addition to this, is now far advanced in phthisis. Here the expectoration was more scanty, and consisted of purulent matter, rendered tenacious by an admixture of rust-coloured secretion from a little local pneumonia. In this case an ounce of sputa contained so much as about seven grains of sugar.

It might be found, he thought, when closer attention came to be given to the subject, that there were other organs than the kidneys habitually playing an active part in the removal of the sugar which was accumulating in the blood during the progress of diabetes. There were, at least, some grounds for believing such might be the case from the results just detailed, and if so, the quantity of sugar escaping in the urine could not be viewed as an absolutely safe index to the quantity formed in the system, unless taken in conjunction with other means of its elimination.

The cases might further be looked upon as furnishing an argument, if further evidence upon the subject were necessary, that the kidneys play no part in the formation, but merely in the separation from the blood, of the sugar.

Medical Gazette, Feb. 12, 1847, *p.* 291.

95.---*On a Source of Fallacy in Testing for Sugar in Urine by Moore's Test.*---By D. G. Owen Rees, F.R.S., Assistant Physician to Guy's Hospital, &c.---[Dr. Rees has discovered a source of fallacy in Mr. Moore's otherwise excellent test for sugar, (that of boiling with liq. potassæ), which is that if the liq. potassæ contain *lead* in solution, it will be united in boiling, to the sulphur of any albumen contained in the urine, and thus produce a *brown colour.* To guard against this, the liq. potassæ should be kept in a bottle of green glass, which contains no soluble lead; and should be tested with hydrosulphuret of ammonia, from time to time.

Medical Gazette, April 9, 1847, *p.* 633.

96.—ON THE DETECTION OF POISONS IN THE URINE.

By H. Letheby, M.D., Lecturer on Chemistry at the London Hospital.

[Dr. Letheby, after briefly referring to the experiments of Wohler, Tiedemann, Gmelin, Orfila, and others, in showing that many mineral, animal, and vegetable poisons are admitted into the circulation and eliminated by the kidneys, adds farther proof of the correct researches of these eminent men by a statement of his own personal observations respecting the detection of poison in the urine. He adds,—]

These facts led him to inquire whether the various poisons might not be disposed of in a similar manner; and, if so, whether their existence in the renal secretion might not furnish a hint for the treatment of cases of poisoning; and, thirdly, whether their detection in the urine would not supply evidence of a very valuable character for the guide of the medical jurist.

With these objects in view, he analysed the urine of persons under the influence of the various poisons, and tested his results by experiment upon the lower animals.

He succeeded in detecting the following poisons:—sulphuric, muriatic, nitric, phosphoric, and oxalic acids; of the alkalies, he had discovered the presence of potash, soda, and ammonia; of the neutral salts, he enumerated nitrate of potash, iodide of potassium, sulphate of magnesia, the red and yellow prussiates of potash, and chloride of barium; of the salts of the other metals, he had recognised those of antimony, arsenic, lead, mercury, copper, iron, and silver.

With the view of detecting the organic poisons, the author instituted another class of experiments, the object of which was to ascertain if the vegetable poisons would, after their administration, endow the urine with any special physiological power over the system of another animal; and the conclusion to which he came was, that the active principles of many organic poisons, such as opium, belladonna, hemlock, aconite, &c., would, in that part, pass through the system, and appear in the urine unchanged.

With respect to the second question, as to whether their detection in the urine might not furnish a hint for the treatment of cases of poisoning, the author showed, from experiments upon animals, that diuretics were of great service in getting rid of poisons which had been administered to them, and thus helping them very considerably in their recovery.

The third question embraced by the paper—viz., whether the detection of the poisons in the urine might not supply evidence of a very valuable character for the guide of the medical jurist?—was proved to be an important one, inasmuch as the urine might be the only fluid or product at the disposal of the chemist; 2ndly, the evidence deduced from it might be of a positive, and, therefore, satisfactory kind; 3rdly, those poisons are recognised with more ease in this secretion than they are in the tissues; and, 4thly, they may exist there to a larger amount than in any other part of the body.

A few other questions were referred to as having an important bearing on this subject, as—

1st. Whether every poison makes its way to the urine, and what are the characters by which it is to be recognised?

2ndly. What is the smallest amount of each of the poisons capable, after its administration, of being detected in the urine?

3rdly. What is the earliest period at which the different poisons may be recognised, and what the latest?

4thly. Whether any relation existed between the quantity discovered in the urine, and the quantity administered?

5thly. Whether there are any circumstances which may increase the facilities for their elimination, and whether there are any which may diminish them?

These were questions which the author of the paper hoped to determine at some future period; at present, he believed that the facts, as they stood, warranted the following conclusions:—

1st. That many poisons were absorbed into the circulation.

2ndly. That these poisons are eliminated by the kidneys, and may be detected in the urine, either by their chemical or physiological reactions.

3rdly. That these facts, together with others from experiment, point to the value of diuretics in the treatment of cases of poisoning.

4thly. That it is possible to obtain, from an examination of the urine, some of the most valuable and certain evidences regarding the administration of a poison.

5thly. That we should not omit to examine this secretion in every case of suspected poisoning.

In the course of the paper, the author alluded to the presence of an excess of phosphates in the urine of persons occupied in the manufacture of lucifer matches, and referred it to the inhalation of phosphoric and phosphorous acids generated by the slow combustion of the phosphorus. He proposed a very simple remedy, that of exposing shallow vessels, containing turpentine, in different parts of the building, but especially in those situations where the phosphorus was most liable to oxidation: by this means he found that the vapour of turpentine would become diffused through the atmosphere, and so check that slow combustion of the phosphorus which was the source of all the mischief to the workmen.

Dr. Golding Bird remarked that this paper contained some points of great interest; the most interesting, however, being, probably, the least novel. Thus it was long ago demonstrated that the kidney carried from the circulation all effete and injurious matters that were held in the blood in solution, either in a changed or an unchanged condition. This latter law was of universal application, whether it related to saline or vegetable matters.

One of the facts mentioned in the paper confirmed the experiments made by Donné and himself, (Dr. Bird), that when oxalic acid was taken into the stomach, either as a medicine, or as it exists, combined with potash, in sorrel, it was afterwards found in the urine, forming crystals of oxalate of lime. Dr. Letheby had found it in combination with urea. The experiments on the mineral acids were evidences of the remarkable depurating action of the kidneys, as mentioned by German writers; but before we could judge of the value of these experiments, the data upon which they were made must be examined. He had no doubt of the accuracy of these researches, for it must be remembered that sulphuric and muriatic acids existed in the urine; the former becoming greatly increased if the person ate mustard or other articles containing sulphur. He had been a little surprised to hear that the mineral acids in a free state were so soon detectable in the urine; for, though it was mentioned in books as possible, he had repeatedly tried to detect it, and had been vexed to find how different were the results to those he had expected. He might, indeed, observe, that he had never succeeded in making urine acid by the exhibition of the acids, except by the benzoic. He had given the sulphuric and nitric acid in cases of alkaline urine for weeks together, but had never succeeded in making that fluid acid. One of the facts stated in the paper was of a startling character—viz. that from three to five grains of arsenious acid might be safely taken into the stomach if the kidneys were stimulated to diuresis, as it would be carried off by this channel. He could not understand how this could be, unless, indeed, there was a short road to the kidneys not at present known; for the arsenic, before it reached these organs, must be absorbed into the circulation. It was difficult to understand how escape from the poison was effected. The experiments respecting the absorption of the metallic poisons confirmed the experiments of the best French chemists. His experiments, also, respecting the presence of antimony in the urine, from poisoning by that agent, confirmed the views of others.

Dr. Snow said that the difficulty of removing an alkalescent state of the urine, by the administration of the mineral acids, was no proof that these acids did not pass off by the urine; for in nearly all cases of alkaline urine it became alkaline after its secretion from the decomposition of the urea, and such an amount of ammonia was produced in this way as it would be almost impossible to neutralise by any quantity of mineral acid which could be safely administered as a medicine.

Medical Gazette, Jan. 22, 1847, *p.* 152.

97.—CASE OF HÆMATURIA TREATED WITH GALLIC ACID.

By J. S. Hughes, Esq., Surgeon to Jervis-Street Hospital, Dublin

[A man received a violent blow on the left lumbar region, from the handle of a crane. Three of the lower ribs were broken close to the vertebræ; there was excessive ecchymosis, and acute pain on pressure over the kidney, and the man was conveyed to the hospital in a state of great collapse. He passed blood and bloody urine. After bleeding, &c, Mr. Hughes admininistered gallic acid, as recommended to him by Dr. Neligan, in doses of two grains and a half, made into a pill with extract of gentian, every three hours. After the third pill, the gallic acid was detected in the urine (by tinct. ferri mur.), and the quantity of blood in the urine immediately began to diminish. In a few days he was quite well. Mr. Hughes says:]

Gallic acid has proved a most useful addition to our list of astringents. Both as an external and an internal remedy in hæmorrhages its character stands high, and justly so; it is now generally alleged to be the active principle in Ruspini's celebrated Styptic, which Dr. Thompson is of opinion consists of gallic acid, sulphate of zinc, opium, alcohol, and rose water; the gallic acid evidently being the active ingredient. Some time since I saw the power of Ruspini's Styptic put to the test in the case of a gentleman who had some of the branches of the palmar arch of arteries opened by the bursting of a bottle of soda water; profuse hæmorrhage having ensued, and attempts to secure the bleeding vessels having been tried in vain, graduated pressure was applied, but to such an extent, and for such a length of time, that sloughing of the palm of the hand ensued, with inflammation extending up the forearm, and considerable fever, together with repeated periodical hæmorrhages, by which the patient was considerably reduced: at this stage I saw the case in consultation, when it was agreed to give a trial to this powerful Styptic, and a single application of it was followed by an immediate arrest of the hæmorrhage, and recovery. As a local application in aphthous ulceration of the mouth and tongue, I can speak highly of gallic acid; it is also a valuable injection in the gleety stage of gonorrhœa. As an internal remedy, gallic acid has been used with great success by Dr. Simpson and others, in certain forms of uterine hæmorrhage, and with this advantage over most anti-hæmorrhagic medicines, that it had no constipating effect on the bowels; but as gallic acid passes directly to the kidneys, acting thereby as a direct astringent, the urine becoming impregnated with it very soon after its exhibition, it consequently is an astringent peculiarly suited to hæmorrhages from the urinary organs, and as such has been strongly recommended by Drs. Steevenson, Golding Bird, and others. Dr. Steevenson has published in the Edinburgh Medical and Surgical Journal, the following case of obstinate hæmaturia, successfully treated by gallic acid. The patient was a boy fourteen years of age, who had been passing blood with his urine for several months, supposed to have been caused by a blow which he had received in the lower abdomen from one of his schoolfellows. After ineffectual attempts to arrest the discharge of blood, three grains of gallic acid were given every three hours for four days, when the discharge subsided, and did not return. In the case which I have brought forward, we found that the large doses of acetate of lead, combined with opium, did not check the hæmorrhage; whereas the bleeding ceased altogether after the exhibition of the third dose of the gallic acid, at which time the presence of the acid in the urine was proved by the addition of the tinc. ferri sesq. chlorid.

Dublin Quarterly Journal, Feb., 1847, *p.* 275.

98.—ALKALESCENT URINE, AND PHOSPHATIC URINARY CALCULI.

By Dr. Snow.

Dr. S. said that when the bladder remained constantly full, as in paralysis of that organ, the urine was known to become alkalescent from decomposition. He had met with a case of incontinence of urine four years ago, in which the whole of the urine became highly ammoniacal, from about half an ounce remaining constantly in the bladder; and he afterwards performed experiments to ascertain if a still smaller quantity remaining unvoided, might not have the same effect. Newly-voided urine was kept at the temperature of 100 degrees, dropping from one vessel into another about the rate at which it enters the bladder; the glass vessels were emptied every six or eight hours; about thirty drops, however, always being left in the lower one, whilst the upper one, after being washed out, was filled again with newly-voided urine. It was found that the urine in the lower vessel became strongly alkalescent, and remained so as long as the experiment was continued, whilst in the upper one it was always fresh. He considered that these experiments would assist to explain a number of circumstances connected with phosphatic deposits and calculi, and would suggest an important improvement in the treatment of a numerous class of cases. With a calculus, or any foreign body in the bladder, it was impossible that it could be completely emptied of urine, and even the urine imprisoned in the pores of a calculus would be enough to cause decomposition in many cases; accordingly it was found, that if a foreign body found access into the bladder, it became nearly always covered with phosphates, and every kind of vesical calculus was liable to become encrusted with them; whilst they, on the other hand, scarcely ever became covered by any other deposit. It was believed by the best authorities, that foreign bodies caused chronic inflammation of the mucous membrane of the bladder, when it poured out alkaline mucus which decomposed the urine. This might be true in some instances; but a pea, or a bit of fibrine, indeed the most inoffensive substance, was certain to become covered with the earthy phosphates. When the urine became ammoniacal from the decomposition of the urea, the ammonia, besides throwing down the triple phosphate from the urine itself, produced great irritation of the mucous membrane of the bladder, and caused it to pour out quantities of phosphate of lime mixed with mucus.

Patients suffering from injuries and diseases of the spine were well known to be subject to alkalescent urine, and indeed, often died of diseases of the bladder and kidneys. He enumerated the various explanations which have been given of this, and offered the following: that the muscular coat of the bladder was, like the other voluntary muscles, subject to partial as well as complete loss of power; and that when weakened by an affection of the spine, it might be able to void the urine, but not to contract in that vigorous and perfect manner necessary to expel the last drop of urine; more or less would be left behind each time, and this would cause decomposition, which, by its continuance, would irritate and cause disease of the bladder; and that the decomposition, in course of time, might be propagated up the ureters, and cause phosphatic deposits in the pelvis of the kidney. He thought that the debility of extreme old age, and states of great nervous irritability and depression, caused alkalescent urine, generally, by withholding the power from the bladder to empty itself completely; and that the phosphatic diathesis, in the proper sense of the term,—viz., the secretion of the phosphates in excess by the kidneys, was extremely rare.

He recommended injecting the bladder, in these cases, every day or every other day, with warm water, to wash it well out; and thus preserve its mucous membrane and the urine from disease, until time and other remedies might fully restore the impaired function of the musculur coat of the bladder, or remove whatever prevented its being duly emptied. He considered this practice would greatly improve our treatment of stone in the bladder, by enabling us to keep the urine in a healthy condition; healthy urine, according to Dr. Prout, being the best solvent of all kinds of calculi we could hope to possess.

Mr. Hancock considered that Dr. Snow had not sufficiently distinguished between the triple phosphates, which he (Mr. Hancock) considered were secreted by the kidneys, and phosphate of lime, which was secreted by the mucous membrane of the bladder when irritated by a calculus, or any foreign body. A uric acid, or other calculus, did not become covered with triple phosphate unless alkalies were given as a remedy, which rendered the urine alkaline;

but it might be coated with phosphate of lime, from its irritating the bladder. He was of opinion that the alkaline urine in injuries of the spine depended on the altered secretion of the kidney, and that it ceased as the patient regained his strength. He had had a patient in the hospital with an injury of the spine, in whom the urine was alkaline; he partly recovered, and it became acid; on his relapsing, it became alkaline again, and so continued till his death, and triple phosphate was found in the pelvis of his kidneys: that patient's bladder was injected, but it did not render his urine acid.

Medical Gazette, Nov. 13, 1846, *p.* 852.

99.—ON INCONTINENCE OF URINE IN CHILDREN.

By Dr. Richard Chambers, Physician to the Essex and Colchester Hospital.

[In the incontinence of urine occurring during sleep, in children, and unconnected with organic disease, Dr. Chambers advises the following treatment.]

No fluids are to be taken within three hours of going to bed, The bladder is to be emptied immediately before going to bed, and in about three hours after the patient is to be awoke, and the contents of the bladder are to be again evacuated. A blister is to be applied occasionally to the sacrum; this answers a double purpose; it acts as a stimulant to the bladder, and it prevents the patient from sleeping on his back, and thus keeps the urine from gravitating to the most irritable part of the bladder—its trigone. To restore the tone of the bladder, I give a combination of equal parts of tincture of cantharides, and the muriated tincture of iron, in doses of twenty drops thrice a day; and in some cases use the cold douche to the genitals, or the cold shower-bath.

[It is sometimes advisable to cauterize the orifice of the urethra, with the view of rendering a portion of it so tender that the passage of urine over it during sleep will awake the patient. Dr. Chambers also gives small doses of the balsam of copaiba with advantage.]

Provincial Medical and Surg. Journal, Dec. 30, 1846, *p.* 61.

100.—*On Incontinence of Urine in Young Persons.*—Two young persons affected with nocturnal incontinence of urine, were treated at La Charité, by M. Gerdy, with strychnine internally, the dose being from a quarter to half a grain daily, until it caused muscular twitchings of considerable severity. Small enemata of sulphate of quinine were conjoined with this treatment, and a cure was accomplished. Two months afterwards, one of the patients returned to the hospital, with a relapse of the same infirmity. The repetition of the strychnine, produced no advantage. Another patient, with the same affection, was treated with the extract of belladonna, three grains daily, but the cure only continued eight days. We must not be in haste therefore to give up the use of remedies, after the cure of incontinence. It is known at present that this affection is connected with a chronic phlogosis of the neck of the bladder, and sometimes of the body of this viscus. The urine is often catarrhal. M. Robert has cured two cases of this kind, by injections into the bladder of a solution of nitrate of silver. The internal use of ergot of rye and camphor (from five to ten grains of each) daily, is also beneficial in these cases, and does not prevent the use of nitrate of silver locally, and frictions of camphor ointment to the perineum and pelvis at night.—*Annales de Thérapeutique*, Septembre, 1846.

A lad, aged fourteen years, detained at the penitentiary of Bordeaux, affected with the infirmity of passing urine in bed when sleeping, placed a string round the penis, with a view of preventing it. A retention of urine, with very serious symptoms, was the consequence, but the ultimate result was a complete cure of the incontinence. In the same institution five children were permanently cured by causing them to remain standing for three nights. A girl, aged seventeen, was cured by ergot of rye, and other patients, similarly affected, by sulphate of quinine. Strychnine has been employed occasionally with success when all other means have failed, and the same result has attended the use of cantharides powder, in doses of four grains daily. It is remarkable that these different remedies have sometimes succeeded and sometimes failed, under circumstances much the same, so that it is often necessary to try one after the other in succession.—*Journal de Médecine de Bordeaux*, March, 1846.

Monthly Journal of Medical Science, Feb., 1847, *p.* 618.

101.—*Benzoic Acid in Incontinence of Urine.*—By Dr. FRAENE.—The patient was a young girl of 13, who, after two attacks of rheumatism, the latter of which was cured by colchicum, became affected with incontinence of urine. This complaint had already lasted four months, when Dr. Fraene was called in. After three weeks of unavailing treatment, he had recourse to benzoic acid. At first, six grains, morning and evening, were given; on the fifth day she took twenty-four grains, and the next night the complaint disappeared, and did not return. The remedy was continued for some days after.—*Gazette Med. de Paris*, 6 Fev. 1847.

Monthly Journal of Medical Science, March 1847, *p.* 695.

102.—*Retention of Urine Treated by Ergot of Rye.*—By RICHARD LANYON, Esq., M.D., LL.D., F.A.S., &c.—[Dr. Lanyon relates the case of an old man who had required the frequent use of the catheter. Having determined to try the efficacy of ergot of rye, he says:]

Thirty grains were infused in three ounces of boiling water, and strained when cold, of which he was directed to take a third part every six hours After the third dose, he passed about half a pint of urine without impediment, and the natural function was restored. The relation of single cases of success, it is true, cannot be of much weight, but they are important, as serving to strengthen the evidence of previous investigations. I am, however, enabled to say, that as in obstetric practice instrumental delivery is of less frequent occurrence since the introduction of the ergot, so will the catheter in many instances be abandoned when general experience shall have fully appreciated the value of this remedy in retention of urine. Its *modus operandi* appears to be attended with some peculiarities which it may be as well to notice. In the first place, whenever my patient had a paroxysm, the urethra was never closed gradually, but became impervious without any intimation, and it was always observed, that when the catheter was being introduced, it met with opposition about half way up the urethra, which was presently overcome by allowing the extremity of the instrument to bear gently against the stricture, when, by a sudden reduction of the spasm, the instrument as suddenly, and without any assistance on the part of the operator, entered the bladder. Hence I conclude that the ergot here acted the part of an antispasmodic, for this was clearly a case of spasmodic stricture. Dr. Ross's patient evidently laboured under want of power to expel the urine, and adynamia of the bladder appeared to be the defect in the case related by Dr. Houlston. In one of the numbers of the *Provincial Medical and Surgical Journal*, Dr. Jeffreys published an instance of the same kind, where he was equally successful with the same remedy, All these cases depended on want of tone; but my patient is not disposed to paralysis—at all events, there is no evidence that such a disposition exists; I am, therefore, not justified in concluding that an adynamic state of the bladder is the cause. The ergot, then, like opium, appears to be a sedative or stimulant, depending on the dose, and probably on other circumstances which further experience can alone unfold. Dr. Houlston directed six grains three times a day, and Dr. Jeffreys began with ten grains daily, increasing the dose to double or treble the quantity; whilst Dr. Ross varied the dose from ten grains to thirty in the twenty-four hours. In my case a medium quantity (ten grains) was given every five or six hours; but whether its operation in producing apparently diametrically opposite effects depended on the more frequent repetition, must be decided by future clinical observation.

[The reader will find this treatment anticipated by the editor, in Retrospect, Vol. xiii, page 368, in an interesting case, in which doses of two scruples were given twice a day, an hour or two before the time when the urine had collected so as to distend the bladder.]

Lancet, Feb. 20, 1847, *p*. 200.

103.—*On the Influence of Strychnine on the Urinary Organs.*—In several cases of paralysis affecting the lower extremities and the bladder, strychnine has been employed; and it has been remarked that it, in the first place, increases the urinary secretion, then causes very frequent desire to empty the bladder, and when this is done, it is attended with some smarting. This influence on the bladder declines in proportion as the effects of the strychnine manifest themselves in the muscles of the limbs.

Lancet, April 17, 1847, *p* 412.

Charing Cross Hospital
Students Exam

SURGERY.

FRACTURES AND DISEASES OF BONE.

104.—TREATMENT OF FRACTURED THIGH AND LEG, AT ST. BARTHOLOMEW'S HOSPITAL.

By W. P. Ormerod, Esq.

Fracture of the Thigh.—Some of the signs of *fracture of the neck of the femur* are frequently absent, although it is rare to find them all so. However doubtful they may be, all injuries of the hip occurring in old people must be narrowly watched, as several days may elapse before it can be positively declared that a fracture has not taken place. " The result alone can test the point, and nearly always the result is, that the limb is broken." A woman, æt. sixty-six, who had been knocked down on her right hip, was admitted. Shortening of about an inch, but without the slightest *eversion*, was observed. The absence of this was explained after death by the partial laceration of the capsule and the irregularity of the fracture, the lower fragment being wedged into and overlapped by the upper.

In *treating fracture of the thigh*,

" The bed of Mr. Earle, and the bent position on the side, have been discontinued latterly in great part at St. Bartholomew's, for the long straight splint. The limbs unite better, the trouble is less, and the expense is much less; the high beds being very dear, and spoiling a blanket each time that they are covered. There is also another evil in hospitals; if fleas and bugs once get into a high bed, it is very hard to get rid of them. There are, however, some cases in which a high bed is good. If a patient has two broken thighs or legs, a high bed allows the chest to be raised, and thus he can move and is less liable to risk in vomiting. It is said, that a fracture in the upper third is not so liable to rise on the high bed, as the lower portion can be brought to meet it. This is very doubtful, indeed, in practice. Thighs broken in the middle, and not fully extended, generally unite with the lower end of the upper part on the outside, or in front of the upper end of the lower portion. This is very hard to prevent on the high bed, and a mere matter of chance on the side; but with a long splint, and a long inguinal band right up to the axilla, as high as can well be done, it is partially prevented."

Fracture of the Leg.—A case is cited in which a man walked from Highgate to Smithfield (four miles) in four hours, the tibia being broken across its middle, and the fibula somewhat lower down!

When fracture of the *fibula* is difficult of detection, Mr. Ormerod recommends the following procedure:—

" Place the right hand with the ends of the fingers on the fibula midway between its two extremities, and press it towards the tibia. Even in the stout fibula of a healthy man, the bone will often play between its two extremities under this pressure. If a general easy movement is found, by passing the left hand up and down, to take place all the way between the two attachments of the fibula, fracture is very improbable indeed, whilst occasionally the pain and amount of free motion produced by this pressure show that fracture has taken place. When the tibia and fibula are broken near the ankle-joint, without any bruise or displacement, the detection of crepitus is sometimes very difficult, and can only be ascertained by firmly grasping the ankle with one hand, and the lower-third of the leg with the other, and attempting to move the parts slightly on each other. Unless the greatest caution be observed, fracture in this situation may pass unnoticed. Occasionally any displacement is so entirely wanting, that it is necessary to hold the part just above the injury firmly with one hand, and to press the lower part firmly backwards with the thumb and fingers, when the acute pain with a very slight crepitus show the existence of fracture."

Mr. Ormerod thus describes the plan adopted in Mr. Lawrence's wards for preventing the bones from projecting unduly forward after fracture of the leg, situated low down.

"The leg is placed in the bent position on the outside, with a common side splint placed above and below, slightly hollowed out to fit the leg. In addition to these, two straight splints are used, padded on one side, one of sufficient length to extend from the patella to the upper part of the lower-third of the leg, the other long enough to reach from the hollow of the knee to beyond the heel. If the straps be now passed round the leg, including the shorter of the two straight splints on the front, and the longer splint on the back of the leg, along with the two hollow splints on the upper and under side, the tibia and fibula above the fracture will be pushed backwards, whilst the foot with the part below the fracture is pressed forwards. In this manner the tendency of the tibia to pass forwards, arter simple dislocation or fracture near the ankle, is effectually prevented.

Medico-Chirurgical Review, Jan., 1847, p. 68.

105.—*On Compound Fracture of the External Condyle of the Femur extending into the Joint, complicated with Fracture of the Lower Third of the same Bone, &c.*—By W. Philpot Brookes, Esq., M.D., Surgeon to the General Hospital and Dispensary, Cheltenham. [The following case is remarkable in showing the restorative powers of nature, in injuries of the worst description, connected with joints and bones. If recovery took place in such a case as the following, what may we not expect in injuries of the smaller joints of the body.]

On examination of the limb, I found a compound fracture of the thigh, extending into the popliteal space; the lower end of the femur was protruding, and sufficient hæmorrhage had taken place to cause collapse. On minutely examining the injury, I found the capsular ligament of the knee-joint ruptured, and an oblique fracture through the external condyle of the femur, so evident that Mr. Fricker (who kindly gave me his assistance) and myself could pass our finger between it and the joint; there was also a transverse fracture of the lower third of the femur above the joint; the popliteal artery remained unimpaired; the joint was very much distorted. Under these circumstances, and the boy having rallied, immediate amputation was advised, but the father strongly objected, and would not give his consent to this measure. Accordingly the wound in the popliteal space was dressed with wet lint, the limb put in a natural position, and a straight splint, extending from the hip down to the ankle, was placed on the outside of the limb, and a short concave one on the inside, lightly bandaged. Constant cold applications kept to the knee-joint, low diet, and fifteen drops of Battley s sedative, with camphor mixture given at bed-time. Pulse in the evening was 90, and the boy much more tranquil than could have been expected.

June 29th, twelve A.M.—Slept well; pulse 80; tongue slightly furred: is moderately tranquil. Repeat the draught at bed-time. Bowels not opened. Ordered him an ounce of castor-oil directly. Eight P.M.—Oil not operated; pulse 90, and quick.

30th, A.M.—The oil had not any action on the bowels; is very restless; pulse 120. Thigh dressed; very little discharge, but escape of synovia, mixed with blood, which continues slightly, and has done so since the accident. The knee is much more swollen, the patella thrown out of place, and we can, on passing the finger into the wound, plainly feel between the external condyle of the femur and the head of the tibia. Tongue harsh, and furred. Ten P.M.—Bowels opened twice; tongue white, but much moister than this morning; pulse varied during the day from 120 to 90, which it is now; sleeps a good deal, and is very much more tranquil than he was.

July 1st.—Tongue clean; bowels not opened; pulse 80 to 90; knee less tense; discharge from it increases; is very tranquil; slept well last night. Has been kept on low diet up to to-day, when he took an egg. Continue the cold application to the joint.

2nd.—Going on well. Bowels not being opened, I gave him more oil. Pulse 80. The anodyne at bed-time. Ten P.M.—Had great pain in the limb this evening, and the pulse rose to 110. 3rd.---Bowels not been acted upon. The oil repeated. The leg was dressed to-day; it discharges much. To take a more nourishing diet. A splint was also placed on the under side of the thigh.

4th.---Bowels well opened; going on well in every respect.

6th.---Limb dressed to-day. The wound looks very healthy; discharges less; knee less swollen, and is going on well.

10th.---Has gone on very well since last report; swelling gradually subsiding. Takes a full generous diet.

23rd.---Continued to go on well. Wound nearly healed; discharges but very little, and pain only on moving it to dress it.

Remarks.—He continued to go on well, and the splints were taken off at the end of six weeks. The bone was united, wound had healed, and had slight motion in the knee-joint. About a fortnight after the splints were taken off, I found the knee swell, and applied pasteboard splints, with tincture of iodine painted over the joint every day. A small piece of bone is working out at the popliteal space; general health very good; is kept quiet in bed, and cold water douche used every morning. About two months after the splints were left off, a piece of bone, nearly an inch long, worked out of the popliteal space, and after that time all went on well.

I have been in the constant habit of seeing this lad twice a-week, or oftener, up to the present time. He has now got very good motion of the joint, in fact can bend the leg completely on the the thigh; he can also support the whole weight of the body on the injured limb, and walks very well with the assistance of a stick. I have no hesitation in stating he will entirely recover the use of the joint.

On reviewing this case, the whole credit of allowing the limb to have a chance of recovery must be given to the father of the boy, for he was strongly urged to allow amputation, but he would not do so, and stated "the youth of the patient may give him some chance of recovery;" and so it turns out it did. Should another similar case come under my notice, I shall certainly (having a due regard for the age of my patient) be inclined to endeavour to save the limb before I urge amputation, as nature, combined with proper treatment, will do much for us with these young subjects.

I cannot find any case on record where the injury was so extensive as this one, and recovery took place; in fact, the only one at all approaching it is in a patient of the name of Dixon, reported in Sir A. Cooper's work on Fractures, &c. I have therefore given it more fully than perhaps may be deemed quite needful.

Medical Gazette, Jan. 8, 1847, *p*. 56.

106.—GUTTA PERCHA SPLINTS.

By Alfred Smee, Esq., F.R.S., &c.

[It is several years since Mr. Smee first advocated the use of "moulding tablets" for splints. He now advises the use of gutta percha, rolled out into tablets, for the same purpose. He says]

It has advantages over the moulding tablets which I there described, inasmuch as tablets of this material, rolled to the required thickness, are more easily moulded into the required form, when soaked in hot water.

It has, moreover, advantages in its being impervious, and uninjured by water, alcohol, ether, acid, and alkaline solutions, and therefore especially applicable to interrupted splints, where an aperture is required to be left for the application of these substances. It is not so good, however, as the moulding tablet, inasmuch as it retains the perspiration, whilst the moulding tablet transmits it. This difficulty may be overcome by puncturing numerous holes in the gutta percha, or by lining it with a piece of thin lint, which allows the perspiration to escape. If the perspiration is retained, it irritates and excoriates the skin.

I have employed this substance for fractured limbs and diseased joints; I have found it of great value after the division of tendons for contractions; and I have also found it extremely valuable in cases where pressure or counter-pressure are to be employed, as the force may be then distributed over a large extent of the body.

The moulding tablets for fracture are, in my opinion, not so much employed as they deserve, solely, I believe, because surgeons do not like the trouble of their preparation. Under these circumstances, I hope that gutta-percha tablets will cause a far more extensive adoption of this form of splint.

Lancet, Dec. 5, 1846, *p.* 608.

Gutta Percha is the native name of the exuded juice of a tree so called, indigenous to Singapore and its vicinity, and collected like caoutchouc, which, in appearance, it somewhat resembles. It is brought for sale in lumps, and at ordinary temperatures feels quite hard; when a piece of it, however, is plunged in boiling water, it softens, becomes pliant, may be rolled out, or moulded, into any form the operator chooses, and, after cooling, perfectly retains the form so given: for several months, in Singapore, it has been formed into walking staves and gig-whips; and, more recently, water-jars, basins, and other domestic utensils, have been constructed with it. To its use to the surgeon, however, I would direct attention: when softened by the heat of water at or near the boiling point, it can be rolled out into laminæ of suitable thickness for splints, and, while still pliant, placed on a fractured limb, and adapted to its contour throughout. It hardens ere it falls to the temperature of the body, and retains its form unchangeably. By applying flannel wrung out of hot water to the outside of the splints, the gutta can be again softened and turned up in any part, or entirely removed and re-adapted. Dr. Little showed its application to my friend Dr. Williamson, in Singapore, as supporting splints in knee disease, and in ordinary fracture; the patients expressed feelings of comfort under the gutta, which had replaced the uneasy pasteboard splints in previous use. This material can of course be turned to various purposes besides splints. It will make excellent bougies, of all sorts and sizes, and on a bit of wire as a stilette, a flexible catheter might be constructed by any surgeon of ordinary dexterity in a few minutes; for enema pipes it answers well. Indeed, its peculiar properties in ingenious hands may be turned to various purposes. (Mr. J. LYELL.)

Ibid, Dec. 5, 1846, *p.* 627.

[Dr. Montgomerie, in the Mechanic's Magazine, adds,]

Among the various uses to which it has been proposed to apply the gutta percha, I have observed some for which its properties render it peculiarly applicable, and one in particular, printing for the blind, for which the clear sharp impression it receives and the toughness of the substance admirably suit it, as well as in the formation of embossed maps for that unfortunate class.

As an application of it of minor importance certainly, but one of very general usefulness, it has been suggested to me that it would be found useful in stopping decayed teeth.

Pharmaceutical Times, Nov. 7, 1845, *p.* 168.

107.—*On Dieffenbach's New Operation for Pseudarthrosis from Ununited Fracture.*—By J. S. BUSHNAN, Esq., M.D.—[The first case related, in which the new operation was performed, was that of a woman who had broken her thigh fifteen months before. It was quite ununited, and such an incumbrance that she desired the amputation of the limb. Dr. Bushnan proceeds:]

There was some soft callus between the fractured bones in which they moved as in a capsule, but no bony deposit. Diffenbach caused the absorption of this grisly matter by rubbing the ends of the bones together, and thus setting up inflammatory action; and, this object effected, he attempted to produce bony union; not, indeed, by the usual and very uncertain routine of very close and accurate contact—removing the ends of the bones by excision, escharotics, or setons. His experience of gun-shot wounds had taught him, that when foreign bodies, as bullets, are lodged in bones, a great quantity of healthy and hard callus is always poured over them; and the experiments of Duhamel and Flourens had established the fact, which it remained for the genius of Dieffenbach to turn to account. So, having pierced the leg with a small scalpel down to the fractured bones, with a common gimlet he drilled holes through each end of the bone, and about half an inch from each fractured extremity. Into each of these holes he introduced a small ivory peg, the same size as the gimlet, and strongly wedged them with a few strokes of a hammer. The limb was then extended, placed in splints, and carefully bandaged. In ten days it was apparent, from the less degree of mobility between the ends of the fractured bone, that healthy callus had been thrown out; and so the ivory pegs were removed, and the wounds allowed to heal. In three months from the date of operation, the patient walked without crutches, and was dismissed cured.

Case 2.—A strong, hardworking man, aged thirty-one, had a year previously broken his right humerus, at about its middle part, while employed on a railroad. No union had taken place, and the limb was useless. The same treatment as in the former case was had recourse to: the bones were bored with a gimlet, small ivory pegs introduced, and at the end of ten days removed. In the course of treatment, however, Dieffenbach was not satisfied with the rapidity of the progress towards bony union, he therefore introduced smaller pegs for a few days; and so successful did the case prove, that, twelve weeks from the first introduction of the pegs, the man was in a condition to resume his employment.

Case 3.—I had the satisfaction of examining this patient and witnessing the operation. He was a robust and apparently healthy man of forty years of age, who, eighteen months previously, had met with an accident upon a railroad, by which he was much bruised and his left humerus fractured at the insertion of the deltoid. The limb was perfectly useless and much withered; the false joint was capable of being moved in all directions, giving little or no pain. The limb bore the marks of setons and issues; and indeed the man had undergone a regular routine practice, under the care of the surgeons whom he had consulted. The operation was rapidly performed, as in the preceding cases, and the limb bandaged and placed in a sort of cradle. At the end of a week there was much swelling of the limb and pain in the fractured parts, which were not as movable as before. On the twelfth day it was still more difficult to move the parts, and on attempting to do so it appeared as if it were a very stiff joint. Then the pegs were removed, and I did not again see the case.

Medical Times, Jan. 16, 1847, *p.* 298.

108.—*On a New Arm-Sling for Fractures of the Upper Extremity.*—By W. T. Keal, Esq., Oakham.—[The invention of this sling, an account of which was published eight years ago in the Medical Gazette, was the result of an accident which befell Mr. Keal, in 1837, by which, in addition to some ribs being fractured, the scapular end of the clavicle was dislocated. He tells us:]

I discovered that when the arm, being placed in the ordinary sling, was brought across the breast, the dislocated end of the clavicle was forced an inch above its natural position, and considerable aching and pain were caused in the injured parts. Yet, when the arm was placed by the side of the body, at a right angle with it, the bone returning to its natural position, the painful feelings subsided.

My object, therefore, now, was to support the arm in this position, which was accomplished by wearing a sling of my own invention, which kept the forearm at a right angle with the body, and caused a steady pressure upon the clavicle. As I have observed that there is a tendency to elevation of the bone when loosened from its humeral attachment, the application of this sling, which my brother, Mr. John Keal, surgeon, 24, Woburn-Place, Russell-Square, will exhibit, accomplishes this object in the most perfect and comfortable manner.

In fractures of the humerus, in whatever part of the bone, I consider the ordinary sling to be highly objectionable. In such an injury it is not possible to place the arm in the ordinary sling, without causing the lower end of the fractured portion to make nearly a quarter turn upon the upper extremity of the fracture; and if the bone be irregularly broken, it is not possible, after this twist, that the bones can be in exact apposition. It must be evident, also, that if the bones unite in this twisted position, the action of the forearm backwards will be circumscribed.

In March, 1843, I had an opportunity of again testing the sling in my own person, having fractured the right humerus about its middle, when, in attempting to jump off my garden wall into the paddock below, my foot slipped, and I fell, my arm being under my body. In this injury, as well as of every other of the upper extremity, with the exception of the dislocated clavicle, the sling, which I request you to accept and to test, will, I believe, be found most suitable. In fractured clavicle also, the ordinary sling has a prejudicial influence; by bringing the shoulder forward, one end of the bone is made to pass beyond the other, causing what is termed a riding of the bones. It is perfectly evident also, that the muscles attached to the humerus posteriorly, must be in a state of undue tension in the ordinary sling, whilst those situated anteriorly are in a corresponding degree of relaxation, which must cause a prejudicial influence upon the reunion.

Upon reflection, the old sling must be considered very objectionable in fractures and injuries of the condyles of the humerus, as well of the bones of the forearm, when connected with the joint, as also of the radius and ulna, when unconnected with the joints. In conclusion, I have the fullest conviction, that every unprejudiced surgeon, with the smallest share of mechanical intelligence, will, upon trial of the sling, simple as it is in mechanism and application, never use any other. The cost of the sling need not exceed five shillings, and any person, after a momentary inspection, could give directions to his carpenter and saddler for its manufacture.

Lancet, Jan 30, 1847, *p.* 118.

109.—*Case of Fracture of the Skull.*—By T. Bancks, Esq., Stourbridge.—[A boy, aged fifteen, had his skull fractured by a brick falling upon it from a height of more than forty yards. Twenty-one hours afterwards, when Mr. Bancks saw him, he was insensible, with a slow pulse, stertorous breathing, and dilated pupil. Mr. B. immediately proceeded to operate. He says,—]

On dividing the scalp, I found an extensive comminuted fracture of the left parietal bone, large portions of which were driven deep into the substance of the brain, much of which, mixed with blood was oozing from the wound. I immediately proceeded to remove the depressed portions of bone, and as much as a tablespoonful of brain (broken up by the fragments of bone) escaped. One spicula of bone had been driven lengthways into the brain to a great depth, and was only discovered by a sharp point below the level of the brain, after I considered that all had been removed. A strip of plaster brought together the flaps, tbe whole was covered with lint dipped in cold water, and he was put to bed, apparently little changed since the operation: if anything, having, perhaps, less power in the pulse. I left, after remaining an hour, with directions to administer five grains of calomel if he should rally. At nine, p.m., there was a little more power in the pulse, and the calomel was placed on the tongue, with directions to give cold water.

12th. Much as yesterday; perfect insensibility; stertorous breathing still; pupils dilated; pulse rather inclined to get up. Ordered, spirit lotion to the head, which was directed to be shaved all over, only sufficient hair having been before taken off to make room for the operation. To give tea, and milk-and-water.

13th. Pulse getting up; more full, and strong. Ordceed, leeches to the temples, spirit lotion, and two grains of calomel, every six hours.

14th. Inflammation of the brain and its membranes has evidently set in; he is very furious, constantly tossing about, and requiring several people to hold him; pupils dilated. Ordered to lose twelve ounces of blood from the arm; continue spirit lotion and calomel; tea, milk-and-water, &c.

15th. Inflammation continues as yesterday, repeat leeches; scarcely so much power in the pulse. The fæces pass off involuntarily; portions of brain in a half sloughy state escape from the wound. The external wound has an unhealthy appearance. Continue the calomel; and spirit lotion to the head.

17th. His pulse to-day is better. but no sign of returning consciousness. From this date up to the 30th he varied, but it would be tedious to give the treatment pursued each day. Suffice it to say, that from the first dawning of returning consciousness, (which took place on that day), he progressed most favourably; the symptoms of inflammation of the brain gradually subsided, healthy granulations sprang up, and in six weeks he left his room. He is now in excellent health, and with all his faculties as perfect (?) as before the accident. The chief interest, I conceive, consists in the recovery after so large a portion of brain had been lost.

Lancet, Nov. 28, 1846, *p.* 581.

110.—ON CARIES OF THE TEETH.

By John Tomes, Esq, Middlesex Hospital.

Treatment of Superficial Caries.—If the disease is of very small extent, and indicated by slight discolouration of the enamel, and if on examination by a pointed steel probe it is found to be superficial, it will be sufficient, whatever the situation, to remove the affected part by a scaulper, or file, and afterwards to well polish the exposed dentine; at the same time directing your patient to keep the surface polished, otherwise the exposed tissue will soon be decomposed by the saliva should it chance to be acid. It is no uncommon thing to find that many teeth are attacked at the same time; on inquiry, you will generally hear that your patient has acid saliva from indigestion, or has been taking medicine containing a mineral acid. In either case it will be well for the patient to use an alkaline dentrifice, and in the latter to rinse the mouth with a weak solution of carbonate of soda after each dose of acid medicine.

On attempting to remove the carious portion, however superficial and small in extent it may be, the tooth will sometimes be so tender that the operation cannot be borne: the slightest touch of the instrument is attended with intolerable pain. Whenever this is the case, the operation should be postponed till the sensitiveness of the affected part is reduced. The most ready means of effecting this is, by rubbing powdered nitrate of silver, or any other escharotic, on the sensitive part with the end of a piece of whalebone, or cane. Chloride of zinc is perhaps the best application, as the effect is speedy, and the tooth will not be discoloured. The operation may then be proceeded with, and should the surface again become tender before the completion, the escharotic must again be applied. A prolonged application of camphorated spirits of wine will sometimes subdue the sensitiveness; but when the disease has attacked the exposed neck of the tooth, commencing on the surface of the cementum,—a situation in which we find extreme tenderness more frequently than in any other,—the camphorated spirits is difficult of continued application.

But if, instead of finding the disease superficial on examination, the probe sinks to some little depth into the tooth, indicating thereby that to that depth the dentine is deprived of its earthy ingredients, then we must have recourse to the operation of plugging. The softened dentine must be removed by conveniently shaped steel instruments. The whole of the softened tissue having been removed, the cavity must be wiped dry, and then carefully filled with some substance which will resist the action of the constituents of the saliva, and will be sufficiently hard to resist injury in mastication. Metals are the only substances found to combine these qualities. Gold, platina, tin, or lead, reduced to thin foil, and packed tightly in the cavity, forms an efficient plug: gold being the most valuable, the others following in the order in which they are placed. An amalgam of palladium or silver may be used with advantage in cases where the cavity is so situated that it becomes inconvenient to pack densely gold or other foil.

A plug is effective only so long as it perfectly excludes all extraneous matter from the cavity; thence it follows, that in order to fill a cavity with metal foil, considerable compressive force must be used. You will at once, therefore, perceive that should the caries have extended so far as to reach the pulp cavity,---though by careful management the softened dentine might be removed,---yet the patient would be quite unable to bear pressure unless considerable precaution be used, even in the most favourable case; and when the surface of pulp exposed is considerable, the operation could not be borne, and if borne, would produce inflammation of the pulp. In many cases, however, your patient will not apply for relief until the disease has not only progressed to the pulp cavity, but the softened dentine removed so as to make a communication between the pulp cavity and the mouth, thus exposing the sensitive pulp to the action of the many fluids and the various matters taken into the mouth. In this case the pulp itself will be more or less diseased. The exposed surface may be inflamed, and throw off a discharge, or it may have receded partially or wholly from the pulp cavity, leaving the vacated space to be occupied by extraneous matter. So that it is of considerable practical importance to learn whether the pulp has been exposed by the removal of softened dentine during the operation, or whether it has been previously exposed. In the one case, plugging, if so managed as not to produce pressure on the nerve, may be successful; in the other, it will, if performed, be followed by ill consequences, as the discharge from the pulp will be confined, and the usual distressing symptoms, indicating pus confined in an unyielding cavity, will result. It is a very good practical rule, if, in removing the softened dentine, or in pressing a probe in the cavity, pain is felt, but only so long as the instrument remains in contact with the tooth, to proceed to plug the cavity; but, if the pain continues after withdrawing the instrument, to postpone plugging, and resort to some means to restore the pulp to a healthy condition, or to produce its destruction; for the continuance of the pain is a tolerably sure sign that the pulp is more or less involved in disease, and if the tooth be immediately plugged that inflammation will supervene.

Medical Gazette, Feb. 26, 1847, *p.* 357.

111.—ON DISTORTIONS OF THE SPINE, INDEPENDENT OF CARIES OR ULCERATION.

By Sir B. C. Brodie, Bart., F.R.S.

[Sir Benjamin Brodie, in some excellent practical observations on this disease, remarks, that the true principles upon which the treatment of the majority of cases of lateral curative of the spine should be conducted, were first enunciated by Mr. Tilleard Ward, and subsequently by the late Mr. Shaw. Sir Benjamin then proceeds to say, that from whatever cause the spine becomes affected with a lateral curvature, it cannot but happen that its effects should extend to other parts of the trunk; as for instance, if one of the lower limbs be shorter than the other, the ilium on that side (both feet being planted equally on the ground) must necessarily be depressed, and a double curvature is the consequence. It must be borne in mind that a difference in the length of the limbs, is in some instances the result of original formation. To obviate the inconvenience of a short limb, the addition of a little cork to the sole of the shoe, will prevent its being noticed at all; and this will apply also in cases of shortening of the femur or tibia after fracture, where curvature supervenes. Shortening of the limb sometimes takes place from disease of the hip joint, or is the consequence of actual dislocation; at other times it arises from the destruction of the margin of the acetabulum by ulceration; and partially, of the head of the femur. Distortion of the spine, as soon as the patient begins to walk, is the inevitable consequence of shortening of a limb, in whatever way produced.

Sir Benjamin mentions a peculiar paralytic affection to which children are liable; he terms it *infantile paralysis.*

Another cause of lateral curvature is a difference in the capacity of the two sides of the chest. Hypertrophy of the heart, or a small lung, will produce the same effect. An opinion formerly prevailed, and is still retained by some, that the common cause of a lateral curvature of the spine, is a rickety condition of the bones; but Sir Benjamin states that this pathological view of the disease is not confirmed by anatomical specimens, and that no such belief can be maintained by any one who has seen much of these cases in the living person.]

What is to be said as to the treatment of this variety of distorted spine may be comprised in a few words, and will be more conveniently introduced here than in any other place. I know of no reason why the treatment of the rickety affection of the spine should be different from that of the rickety affection of the legs and thighs. Of this last I see a great number of cases. In a large proportion of them, heavy instruments of steel have been already applied, with a view to reduce the curvature. In others the same thing has been recommended either by instrument-makers or surgeons, but the machinery has not yet been applied. Now what is the effect of this mode of treatment? The original curvature is probably removed, but in order that this object should be attained, the instrument must make pressure on at least two points, one in the limb above, and the other in the limb below, and at each of these points a curvature is produced which did not exist before, so that there is simply an exchange of one curvature for two others. Then the instruments are a great weight and encumbrance to the child. He cannot drag them about so as to take such an amount of exercise as is necessary for the maintenance of the general health. They harass and torment him; and as they are always liable to break, and be otherwise out of repair, they are an endless trouble and expence to the parents. There is only one form of the disease in which, according to my experience, the use of instruments is at all justifiable, and that is one of very rare occurrence, in which the flexure is confined to the superior epiphysis of the tibia, the tibia below the epiphysis being bent outwards, making an angle more or less obtuse with the femur, so that the sole of the foot is with diffi-

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culty placed on the ground. With this single exception, I have never seen a single case of rickety curvature of the lower limbs, in which, if the health could be improved, and the general vigour of the system maintained, the curvature did not disappear spontaneously without any kind of local treatment being had recourse to; while, on the other hand, under a continuance of bad health, every kind of local treatment has been ineffectual. I generally recommend that the child should live in the country rather than in a crowded city; that he should be as much as possible at the seaside; that he should take some preparation of iron from time to time, the bowels being at the same time carefully regulated; that he should use a shower-bath every morning, cold in summer, with the chill taken off in winter; and that he should live on a plain but nutritious diet. In the early part of my practice I advised that he should be encouraged to crawl on the floor rather than to use his feet, and that instead of running about out of doors, he should be taken into the fresh air in an open carriage. I am now convinced that this advice was wrong; that the general health cannot be maintained without exercise; that the more the limbs are used the better chance is there of the necessary quantity of phosphate of lime being deposited in the bones; and that as the bones become harder, so will they most certainly regain their proper figure, in spite of the weight which they have to sustain. Even in what might be termed a bad case of rickety affection of the limbs, three or four years, and in slighter cases a still shorter period, will generally be sufficient for this beneficial change to be brought about.

From what I have already said, you may be aware that I have a more limited experience of rickety disease as it exists in the spine, than as it exists in the extremities; but, nevertheless, I have seen enough of it to be satisfied that the plan of treatment which is the best adapted in the one case, is also the best adapted to the other.

Medical Gazette, Dec. 11, 1846, *p.* 999.

[In another lecture, Sir B Brodie observes that the most common form of lateral curvature of the spine is of almost daily occurrence in a large practice. Anxious mothers will present a daughter with a projected hip, or shoulder, or a malformation of the neck. In some instances, from having previously existed in another branch of the family, derangement is noticed at an early period; while in others, it has crept on insidiously, and has been disregarded for years.]

If, in one of these cases, the dress be loosened behind, so that you may examine the figure more thoroughly, you find usually the following appearances:—The spine being traced upwards from the pelvis has a slight inclination towards the left side. It then, in the lower part of the back, inclines to the right side, and then in the upper part of the back to the left side again, so as to form a convex line towards the right scapula. In the neck there is another but less distinct curvature, one effect of which is that the patient unconsciously turns her face to the left side. If then you examine the different parts connected with the spine, you find their position to be altered also. The right ilium is rendered more conspicuous than the left, in consequence of there being an apparent depression or sinking in of the right loin. The ribs below the eight scapula are unnaturally prominent; while those of the opposite side are flattened and depressed. The left scapula is less prominent than the right, and it approaches nearer to the spine: in bad cases, indeed, some of the spinous processes are actually covered by it. Corresponding changes are to be seen in front: the sternal extremity of one clavicle projects more than that of the other; and the greater elevation of the ribs on one side causes one breast to appear actually larger than the other.

Such displacement of the component parts of the trunk of the body cannot exist without an ultimate alteration of their figure. The bodies of the vertebræ become thinner on one side, that is, on the concave side of the curve, and thicker on that of the convexity. At a very early period, and even before the lateral curvature is very distinct posteriorly, the bodies of the vertebræ are actually twisted to one side. This curious circumstance was pointed out to me by M. Guérin, of Paris, who has some preparations in which the fact is very perceptible.

The ribs on one side are as it were squeezed together, while on the opposite side an opposite change is produced, the intervals between them being preternaturally increased. The preparations on the table illustrate these appearances. One of them shows another fact of great importance not only in pathology, but also with reference to practice. The curvature of the lower part of the spine being considerable, a mass of newly formed bone has been deposited on the sides of the vertebræ, acting as a splint, and, in fact, uniting them with each other by a complete bony anchylosis. This kind of bony deposit is met with very commonly in bad cases of spinal curvature, and it shows how hopeless the attempt must be to restore to patients thus afflicted their natural or healthy figure.

[In this class of cases there is no rickety softness of the bones; the cylindrical bones retain their proper figure; and there being no distention of the pelvis, young women thus affected may marry without any special reason to apprehend difficult parturition. The circumstances common to all these cases, and which seem to afford a sufficient explanation of the origin of this variety of lateral curvature, are, general debility of the muscular system, and a relaxed state of the ligaments. In allusion to a well-known law of the animal economy, that organs not exercised become reduced in size, and impaired in function, Sir B. remarks, that if one eye were to be covered by a bandage for some years, it would be rendered almost wholly useless. Of all parts, the operation of this law is most conspicuous in the muscles.

As to the *treatment* Sir Benjamin says,—]

In every case there are some preliminary questions. Is it one in which there is a reasonable chance of our doing the patient service?

and, if there be, how much time may yet elapse before the period of her growth is concluded, and her figure made for life, so that no further improvement is to be expected? The plan to be recommended must depend in a great degree on the answer which may be given to these inquiries. If the patient be nineteen or twenty years of age, any treatment that is had recourse to must terminate in disappointment. If she be only thirteen or fourteen years of age, or still younger than this, she has sufficient time before her to justify you, even if there be a considerable curvature, in employing the simplest means in the first instance, reserving other methods of treatment until those first employed, having had a reasonable trial, have been found to be insufficient. At a later age, such as that of sixteen or seventeen years, you are to bear in mind that there is little time to spare, and the treatment, which though most inconvenient, is the most certain in its effects, must be resorted to in the first instance.

I shall first consider the plan to be pursued in the slighter cases of the disease, premising, however, that this includes at least nineteen-twentieths of the cases about which you will be consulted.

The objects to be kept in view, are—first, the improvement of the general health, and the increase of the muscular power generally. Secondly, the increase especially of the power of the muscles which are connected with the spine, and whose office it is to support the weight of the head and shoulders. Thirdly, the taking off the weight of the head and shoulders, as far as this can be accomplished by simple means, and without interfering with what is required for the two first-mentioned purposes. Fourthly, the avoiding various habits, which, although not in themselves an adequate cause of spinal curvature, may tend to aggravate it when it has been produced in other ways.

As to the first of these objects, it is plain that no general rule can be laid down, except that it is important that the patient should, if possible, live in the country rather than in a crowded city; that she should be as much as possible in the open air, taking whatever amount of exercise she can bear without being exceedingly fatigued; and that she should not devote more than a few hours daily to intellectual studies, and to the acquirement of accomplishments. Some may require an occasional visit to the sea-side; others may be benefited by residing there constantly. A cold shower-bath is very generally useful. Others require, or if they do not absolutely require, may take with advantage, preparations of iron, or quinine, or some other tonics.

With a view to strengthen in particular the muscles of the back, particular exercises may be had recourse to; and many kinds of exercise have been contrived for this purpose. All climbing exercises are useful in this respect, bringing all the muscles of the spine into vigorous action. They are at the same time beneficial in another way, the weight of the lower limbs tending to elongate and strengthen the column of the vertebræ. A rope, with worsted wound round it, that it may not hurt the hands, may be suspended from the ceiling, and the patient will soon become a dexterous climber. There are often two or three girls in a family for whom this exercise will be beneficial, and that which would be a tedious and irksome task to a girl alone, will become an amusement when pursued in the company of others of her own age. The handswing affords a very useful exercise in these cases also. This is a triangle composed of a double rope with a cross-bar of wood forming the base of the triangle, suspended from the ceiling at such a height that the individual who uses it can just reach the cross-bar with her hands as she stands on tip-toe. She is to hold the bar with both her hands, and swing with her feet raised a little from the ground. The effect of this exercise also is to bring the muscles of the spine into action, at the same time that the weight of the lower limbs operates in the same manner as when she climbs a rope. At first, probably, she will not be able to continue to use the handswing for more than a few seconds at a time, but as she grows stronger she will swing for a much longer period. Another mode of exercising, and thus strengthening the muscles of the back is the following:—Let one pulley be fixed to the ceiling, and another to the floor. Let a small rope pass over the upper pulley, and under the lower pulley, a box containing a light weight being fastened to that end of the rope which is nearest to the upper pulley, and a handle to that which is nearest to the lower pulley. The patient standing with her face towards the pulleys is to raise and lower the weight, holding the handle in both her hands. The effort used in raising the weight necessarily calls the muscles of the back into action, and as the patient becomes accustomed to it, the required effort may be increased by putting an additional weight into the box. This exercise may be varied by taking off the handle and fixing the rope to a bandage fastened round the head, so that the weight is raised by the action of the muscles of the neck and back without the aid of the arms. The latter method of using the pulleys, however, is wearisome to the patient, and practically much less useful than the other.

I offer these as examples of the kind of exercise which may be supposed to be especially adapted to cases in which there is deficiency of power in the muscles of the spine.

Friction and shampooing act upon the muscles to a certain extent in the same manner as exercise, and in the case of delicate girls, who in the first instance are not able to take exercise in any efficient manner, may be substituted for it. It will, however, be of little service unless it be employed for one or two hours daily, and it should be applied not only to the muscles of the back but to those of the chest and extremities.

The third object to which our treatment is to be directed, in ordinary cases of spinal curvature, (that is, in those which are not of a very inveterate character), is very easily obtained. When not engaged in exercise the patient should spend either a portion or the whole of her time in the recumbent posture. If the curvature be very trifling it will probably be sufficient if she always lies down

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for half an hour after taking exercise; if it be greater, it may not be too much to require that she should never stand for more than a few minutes at a time, and never sit except at her meals.

In order that this part of the treatment should be successfully carried out, it is important that it should be made as little irksome as possible to the patient.

Medical Gazette, Jan. 1, 1847, p. 1.

[In these recommendations as to the treatment to be pursued in this disease, Sir Benj. Brodie states that if persevered in, they will seldom fail either to remove the curvature altogether, or, to reduce it so far, that it shall be detected only by the critical eye of an anatomist. There are a few cases, however, in which it will be expedient to adopt other means of relief or cure, especially in the inveterate cases of spinal curvature.]

You may lay it down as a general rule, that in any case in which the figure is so altered as that the distance of one scapula from the spinous processes is three times as great as that of the other, the curvature will not only not be removed, but will actually continue to increase if you act altogether on the simple means which I have already suggested.

Dr. Bouvier, of Paris, who has paid great attention to cases of this description, and has an establishment for the reception of young ladies affected with curvature of the spine, was (and I suppose that he is so still) in the habit of recommending that his patients should never walk, except on crutches of such a height that they should not be able to plant the entire sole of the foot on the ground, nor to stand except on tip-toe. The *modus operandi* is plain enough. It resembles that of the various climbing exercises. The weight of the upper extremities is taken off the spine, and that of the lower extremities tends to bring the vertebræ into a straight line, at the same time that all the muscles of the spine are kept in action. Whatever I have myself seen of the result of this practice has been in its favour. But it is difficult to give it a fair trial in private families, and my experience of it is limited. I have heard it said that it has a tendency to raise the shoulders, and to make the patient what is called high-shouldered; but the same remark has been made as to some other exercises, of which I know that they produce no such effect in reality. I have also been informed, that the lateral pressure of the crutches has a tendency to flatten the ribs on the sides of the thorax. I suppose that this must depend a good deal on the manner in which they are used, and, at all events, that such a change in the form of the ribs will be produced only where the use of the crutches has been begun at an early age, and continued during a long period of time.

You will recollect the objections which I offered to the use of artificial support, in the cases not only of healthy girls, but also of those in whom there exists a moderate degree of spinal curvature. These objections, however, do not hold good with respect to inveterate cases of this kind. In fact, wherever there is a great degree of spinal curvature, the use of exercise and the recumbent position are of themselves quite inadequate even to prevent the increase of the distortion; and in such cases some mechanical aids are absolutely required.

Various kinds of apparatus have been contrived for this purpose. The principal requisites are, that it should be at the same time strong and light; that in all cases it should be so constructed as to take off the weight of the shoulders, and that in certain cases it should make a permanent pressure on the projecting or bulging ribs; at the same time, that the ribs in the opposite sides which are unnaturally depressed should be free from pressure altogether. These things can be accomplished only by means of a machine made of steel. well fitted to the pelvis on which it is to rest, with a crutch on each side, or something which will answer the purpose of a crutch in supporting the axilla; there being some additional contrivances for adapting it to those cases in which it is necessary to give support to the bulging ribs. Whatever some writers may have said formerly on the subject, there need be no apprehension of any ill consequences from the pressure made by the machine on the pelvis. Even in a case of rickets, I am inclined to believe that pressure may be applied to the pelvis in such a manner as not to occasion those ill consequences which follow the application of it to other bones. However that may be, in the cases which we are now considering the bones are not rickety, and you may be assured that there is no danger of harm being done to the pelvis.

[The machines from which much comfort and advantage have been derived, are those made by Mr. Bigg, of Leicester Square; Mr. Laurie, of Bartholomew Close: and one described under the name of *Tavernier's Lever Belt.* It must be borne in mind that these mechanical means are not to supersede other methods of treatment, such as the removal of the machine at bed time, its resumption in the morning. In the middle of the day the patient should dispense with it for two or three hours, during which time she should be employed in some of the exercises already mentioned, lying down to rest at intervals. Exercise in the fresh air, and a little rest on returning home should be strictly enjoined. Sir Benjamin alludes to other methods of treatment recommended by some, as very beneficial, as couches, and the inclined plane, but in his opinion, the couch invented by the late Mr. Shaw, is a more effectual auxiliary.

With respect to that plan of treatment where forcible extension of the spine is continued even during the night, Sir Benjamin expresses himself satisfied, that is productive of no advantage that is worth obtaining at the expense of so great a sacrifice of ease and comfort.]

Whatever good can be done, may be done by other and less objectionable means. I say "*whatever good*," using the term advisedly, for you must not yourselves expect, nor lead your patient or her friends to expect, too much. In the ordinary and slighter cases of spinal curvature you may generally succeed in removing it altogether, or so far that no one will observe it; it being of course understood *that the patient and her family give you their assistance, and that the plan which you propose is diligently pursued.* In the worse forms of spinal curvative you may generally succeed in very much lessening the deformity, and you may always prevent its further increase. Where there is an hereditary disposition to it, the removal of the curvature is more difficult than where no hereditary disposition exists. In such cases you must be cautious as to the promises which you make in the first instance. In cases of long standing, where you are consulted after many years of careless neglect, and where the patient has nearly attained her full growth, the utmost that can be expected is some very slight improvement. The vertebræ and the ribs are altered in their shape, and it is now useless to expect that their natural shape should be restored. It is by no means improbable that masses of new bone are deposited on the surface of the lumbar vertebræ, fixing them to each other: in other words, that they are anchylosed. In any case of considerable distortion you may form some notion as to the probability of your being able to render the patient service, in the following manner. Supposing her to be provided with one of those contrivances for mechanical support which I have already mentioned, let her height be measured againt the wall, before the machine is applied, and again afterwards. In some instances the application of the machine will cause an addition to the height of one or two inches, or even more than this; in others none at all. In the former case it is reasonable to expect that the figure may be improved, while little or no improvement is to be expected in the latter.

Medical Gazette, Jan. 15th, 1847, *p.* 90.

112.—*On Angular Curvative of the Spine.*—By Dr. Pirrie, Regius Professor of Surgery in Marischal College and University of Aberdeen.—[Dr. Pirrie, after giving an account of the symptoms of angular curvature of the spine generally, and of those peculiar to curvatures in particular situations, refers to the plan of treatment to be adopted. He says,—]

Any attempt to remove the curvature would be most injudicious. Anchylosis is the only favourable termination to be hoped for, and therefore the object aimed at in treatment should be to place the patient under the circumstances most likely to conduce to that result. With that view it is indispensable, first, to keep the patient in a recumbent position, so as to remove from the diseased parts the pressure of the superimposed weight, and to preserve the parts as much as possible in a state of perfect quietude in that position, and, secondly, to use all means, judicious and available in the circumstances of the case, for maintaining the general health. In some cases local remedies are highly beneficial.

That it is necessary to confine the patient to the recumbent position, does not admit of question, for it is evident that the superimposed weight pressing on the diseased part, must not only act as a source of irritation, but also tend to increase the curvature; and it can only be effectually removed by placing the body in the horizontal position. And that any effort which nature may make to effect anchylosis may not be defeated, it is further necessary that the parts should as much as possible be prevented from being moved upon each other. Another advantage which results from preserving the parts at perfect rest in the horizontal position, is that the removal of the irritation caused by the superincumbent weight from the diseased parts, diminishes the danger of the formation of abscess, which (as formerly stated) is a most unpromising occurrence, and must induce the gloomiest apprehensions as to the ultimate results. One of the best means for fulfilling the above indication is to place the patient in the supine position on Earle's bed, which, besides other advantages rendering it very convenient for this part of the treatment, allows the relative position of the trunk and limbs with regard to each other to be slightly changed, without any risk of moving the diseased parts on each other. The slight change thus allowed renders the confinement to the recumbent position much less irksome than it otherwise would be. As an additional precaution for preserving the diseased parts from any movement, it is in many instances advisable to apply splints on each side of the spine. The splints in such cases must suit the shape of the parts to which they are applied. Some recommend the patient to be placed in the supine posture, but others give the preference to the prone position, because in that attitude the superimposed weight is more effectually removed, there is no risk of heat and irritation from pressure, it favours the return of venous blood from the bodies of the vertebræ, and the approach of paralysis it is thought may be deferred, as matter will gravitate away from the medulla. This position is also very convenient when local applications are necessary, and in some cases the curve is so abrupt, that it is almost impossible with every precaution to keep the patient long on his back without producing irritation of the soft parts. But, notwithstanding the above-mentioned advantages, I confess I have in the majority of cases found treatment conducted in the supine posture more satisfactory, and chiefly, I believe, from the diseased parts being more easily preserved in a state approaching to complete immunity from motion, than is possible when the treatment is conducted with the patient in the prone position, in which I have often been annoyed by finding it impossible to prevent the patient from moving the upper part of the spine by frequently moving the head and shoulders; and, as far as my experience goes, the supine position is preferred by patients. Rest, however, of the diseased parts, and the recumbent position, whether the body be prone or supine, are of the utmost importance from the very commencement of the disease until a cure is affected by anchylosis. When it is believed that anchylosis has taken place, and the patient is allowed to resume the erect attitude, it is a judicious precaution to employ for some time an apparatus such as that generally known by the name of the spine supporter, for removing the superincumbent weight.

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[The maintenance of the general health is another important indication, but, unfortunately some of the best means for fulfilling it are incompatible with the essential points of judicious treatment.

In individuals of a scrofulous diathesis, insufficient clothing and food, or any causes acting permanently or habitually, have doubtless an influence in exciting caseous deposits in bone as well as in other textures. Hence the necessity of a generous digestible diet, pure air, and exposure to the light of the sun.

As to the tonic remedies, that of iron is the most useful, but the class of medicines more immediately called for Dr. P. thinks are those which are calculated to preserve a healthy condition of the digestive organs. In cases where the disease depends upon scrofulous caries of the vertebræ, or upon softening with absorption without ulceration or caries, the surgeon should not deplete, but advise the recumbent position, quietude, and the preservation of the general health.]

In scrofulous caries, benefit will often be found to accrue from the early and very cautious employment of counter-irritation along with the treatment here alluded to. If the curve arise from inflammation of the bodies of the vertebræ, of their investing membrane, or of the intervertebral cartilages, slight local depletion by leeching or cupping at the commencement of the disease, and afterwards counter-irritation, are known to be highly beneficial. The repeated application of small pieces of blister to each side of the vertebral column at the seat of the disease has been found well suited for children, and caustic issues for adults. Of the various means for producing counter-irritation, Mr. Pott gave the preference to caustic issues. I have used them frequently, and in some instances with gratifying results. It is improper to produce a great discharge, which would tend to weaken the patient, and besides, the long continuance of a profuse discharge and irritation might induce hectic fever. If abscesses form, the issues should be discontinued. Mr. Pott, whose valuable works contain many cases of disease of the spine, attended with paralysis, successfully treated by the application of counter-irritants, was the first who pointed out to the profession the results of such practice, and many have since followed it with equal success.

About six months ago I ceased to attend a patient, in whose case I was much gratified with the result of using caustic issues, together with rest and the recumbent posture; and I refer to the case as a striking example of the complete restoration of sensation and the power of motion to the lower limbs, after they had been for 18 months considerably affected, and for 11 months entirely lost. The patient, who was 30 years of age, had suffered for a considerable time from pain and a sense of weakness in his back; he afterwards became affected with an angular curve in the middle of the dorsal region, and after the usual train of symptoms, ultimately lost all sensation and power of motion of the limbs. The power of motion was first lost, and sensation was first restored; but the loss of both sensation and motion was as complete as possible. When I first was him, he had lost the use of his limbs for several months, and the curve was rather abrupt, and involved three of the dorsal vertebræ. After treatment had been employed for four months, the sensibility of the limbs began to return, and ultimately it became perfectly natural, and this was followed by a restoration of the power of motion; and for six months the patient has been in every respect perfectly well, without any remains of the disease except the curve, where, I am sure anchylosis has taken place. The case is interesting, as affording a remarkable confirmation of the fact, that the functions of the spinal cord may be for a long period completely suspended, and yet afterwards perfectly restored.

Monthly Journal of Medical Science, May, 1847, *p.* 815.

113.—*On Spina Bifida: the External Tumour successfully Removed.* —By W. B. Page, Esq., Surgeon to the Cumberland Infirmary. [Mr. Page's patient was twenty-one months old in September 1845, when he first saw her. At that time, he says:]

The tumour, which was of a spheroidal form, measured in its greatest circumference seven inches, and at its base five inches, and was situated opposite the lower lumbar vertebræ. The skin covering the tumour was marked by numerous irregularities, resembling cicatrices, one of which was considerably larger than the others; there were also several long coarse hairs, and a small patch of ichthyosis upon it. Fluctuation was distinct, but the tumour was not transparent, owing to the thickness of the integuments; the examination produced no pain, and it was found that the fluid passed readily from it into the spinal canal on the application of gentle pressure. The child appeared healthy and intelligent, had no paralysis, and was otherwise well formed. At the time of birth the tumour was about the size of a large walnut, and had gradually increased. About a year since the tumour was pressed upon by a medical practitioner, and its contents squeezed into the vertebral canal, which produced alarming cerebral symptoms, but no paralysis.

The danger of operative interference being proportionate to the size of the communication between the interior of the tumour and the vertebral canal, I determined to endeavour, if possible, to diminish that communication before I attempted its removal. With this view I placed an elastic ligature of India-rubber around its base, just so tightly applied as to keep up a constant pressure, without occasioning any material inconvenience to the child. Soon after its application, the tumour became inflamed on its surface, and through a minute opening a clear serous fluid escaped for several days, the tumour slowly diminishing at the same time. On the fifth day it was found necessary to remove the ligature, it having produced a ring of ulceration beneath it, in which it was imbedded. This wound very slowly healed, a strip of lint being kept constantly in it to prevent the adhesion of the abraded surfaces, as that would in a great measure have frustrated the end in view—namely, the contraction of the base.

The result of this proceeding was exceedingly satisfactory, inasmuch as the neck was reduced to four inches and one-eighth in circumference, and the tumour itself was much diminished.

[In November the application of the ligature was repeated, and caused deep ulceration. Acupuncturation and the seton were employed without much amendment ensuing between this time and March, when extirpation of the tumour was resolved upon. The circumference of the base was now diminished to three inches and a-half. Mr. Page proceeds to say:]

On the 9th instant, assisted by Drs. Lonsdale and Coburn, I removed the tumour in the following manner:—The child being held firmly and lying on its abdomen, an incision was made through the integuments, commencing from the base at its upper, and extending downwards over the tumour until it reached its junction with the back at its lower part; a second incision, commencing and terminating at the extremities of the first was then made, leaving an elliptical portion of skin attached to the tumour; the flaps of skin were then divided into two parts by an incision at right angles to the first, and very carefully dissected from the surface of the cyst, the walls of which were found to be in some parts very thin. The whole tumour being fully exposed down to its base, a strong ligature was tightly applied, and the tumour removed as closely as possible above it. The flaps of skin were now laid together, a dossil of lint placed over the wound, and a flannel bandage firmly applied around the body. A slight opiate was soon after administered, and the child passed a tolerably comfortable night. For a few days the urine and fæces were passed in bed, but this was probably not dependent on any other cause than the child's fear of being disturbed.

On the third day the dressings were removed, when it was found that the flaps of skin were dead, but the wound appeared healthy. On the sixth day, the ligature, with its enclosed portion of tumour, came away, leaving a wound somewhat larger than a shilling, in the middle of which the membranes of the cord were distinctly seen. The child's state was now one of great peril, and caused us much anxiety. A pledget of lint was kept over the wound, and a flannel bandage constantly applied around the body, the child being at the same time kept as much as possible lying on its abdomen. The wound gradually contracted, and on the 15th of April, five weeks after the operation, was perfectly healed. Since this time, the child has suffered no inconvenience; the cicatrix has much contracted, and now forms a firm covering and support to the spinal membranes. It is also worthy of note, that the vacancy in the posterior walls of the vertebral column, has perceptibly diminished since the removal of the cyst—an effect somewhat similar to that observed after the operation for cleft palate.

The examination of the tumour, demonstrated that it was a cyst of sufficient size to contain a small walnut, its walls being formed by an expansion of the arachnoid and dura-mater, invested by the common integuments. A second cyst, containing a few drops of transparent, colourless serum, existed between the arachnoid and dura-mater. The cyst varied considerably in thickness in different parts, the membranes being in some places much thickened, and throughout intimately united together, with the exception of that portion occupied by the few drops of fluid. No nerves were found connected with the interior of the sac.

The means adopted in the foregoing example of spina bifida, are of course only applicable to those cases in which the base of the tumour is more or less pediculated, and of these there are but few in which such interference could be employed with any prospect of success, the cord, or its nerves, being, in the great majority of instances, connected with the interior of the cyst. But inasmuch as the tumour almost uniformly enlarges, until ulceration of its walls takes place, speedily followed by death, it is important to distinguish if possible those which have no such connections, and in which the tumour may be removed with no other danger than that resulting from the exposure of, and injury to, the membranes of the cord—a danger in itself sufficiently alarming, and which could only be rendered justifiable by the fatal nature of the affection it is intended to remedy. The absence of any morbid sensibility when the tumour was moved upon itself, or when pressure was exerted in any part of it, together with the perfect formation of the lower limbs, and the entire control over them, the bladder and rectum, were, in the present instance, considered sufficient evidence of there being no nervous filaments connected with the interior of the cyst, and probably the same diagnostic signs would furnish equally correct information in most, if not in all cases. Other circumstances concurred to confirm the favourable prognosis with regard to this child, and in this, as in all other operations, certain peculiarities in each case, must render success in a greater or less degree probable.

In the majority of those cases where the base of the tumour is its largest part, and where the probable absence of nervous connexions justifies any interference, some degree of palliation only can be anticipated. The occasional evacuation of a part of the fluid in the sac, and the subsequent application of pressure; the introduction of a seton, and acupuncturation, have each been attended with success in a few instances, where the tumour itself has been small, and the connection with the spinal canal of limited extent; and in all such cases these or other similar methods may be resorted to, although they generally fail to effect the desired end. In those cases where the tumour is large, and the want of osseous development considerable, by the application of a hollow truss, or some other well adapted support, and by the occasional abstraction of a small quantity of fluid on the slightest evidence of pain, or redness in any part of the tumour, that distention, which would otherwise give rise to ulceration, and the sudden discharge of its contents, may be relieved, and the fatal issue deferred.

Even at a very advanced period, the withdrawal of a portion of the fluid may avert the impending ulceration of the cyst:—A child, three months old, was brought to me, with a tumour extending more than half way across its loins, with the skin so much distended and inflamed at its most prominent part as to appear in imminent danger of rupture. I introduced a small trocar, and drew off six ounces of fluid, and subsequently applied a large pasteboard splint and bandage. On the following day the puncture was healed, and the inflamed portion of the skin was fast assuming a healthy aspect. This child died in convulsions twelve days after, probably from the effects of the operation, although, so long as I had an opportunity of observing it (eight days), there was no evidence of any serious disturbance resulting. In puncturing these tumours, it is important to remember, that the cord and its nerves are more generally connected with the middle and upper part of the tumour than with the sides and lower part, and that consequently the latter situation should be selected.

The instances of spina bifida, in which the skin and membranes have been sufficiently strong to support the distention, and in which life has not been curtailed by the presence of the tumour, although very limited in number, are sufficiently numerous not to warrant any active interference, where the slow increase of the tumour and healthy appearance of the skin afford any probability of so favourable a result. Such a case came under my notice a short time since, in the person of a child three years of age, who had a tumour in the loins the size of a fœtal head, the increase of which has been so gradual (although no means have been employed to arrest it), and the appearance of the skin is so healthy and equable as to give reason to hope that she may live to be added to that small number who have arrived at mature age with such an incumbrance. I also casually met with a boy, about thirteen years of age, a few years since, with a tumour the size of an orange, situated over the lower cervical vertebræ, which had ceased to enlarge for several years, although it had been subjected to no treatment, and which occasioned no other inconvenience than that which must necessarily result from the presence of this appendage.

Monthly Journal of Medical Science, Feb. 1847, *p.* 574.

[Mr. Hawthorn, of Sandon, gives us the following successful case of treatment of spina bifida.]

M. G—— was born on the 2nd of October, 1824. On removing the child from the wrapper, I discovered a tumour, about the size of an Orleans plum, situated between the last lumbar vertebra and the os sacrum, and containing a transparent fluid. On pressure, the fluid receded, and its being confined within the spine did not appear to produce any ill effect on the child. For a length of time, a small pad of lint was immediately applied, secured by a piece of lead plaster, spread on leather, to defend it from the acrimony of the urine and from accidental friction, over which was placed a pasteboard, of the width of the loins, to keep the pressure even.

The tumour was examined, and the dressings were removed, every other day, the object of this proceeding being not to apply pressure, but to assist the integuments in resisting the pressure of the fluid contained in the cavity of the spine, and to prevent the distention of the dura mater until the child was able to undergo operation, which was about seven weeks afterwards. If the child be in good health, the longer the operation is deferred the more doubtful will be the result. In order to promote a cure, if possible, I made up my mind to draw off the fluid, and apply pressure to the part, to depress the membranes of the sac as nearly as possible in contact with the aperture in the spine, so that adhesion or thickening of the integuments might take place and enable them to resist the pressure of fluid contained within the spine. The limbs of the child were perfect; it used its legs, and was as active as other children of the same age; and the head was not enlarged, but well-formed. My plan of operating was to lay the child on the belly, across the nurse's knee, the head rather lower than the nates; for should the operation be performed with the head a little elevated, the fluid might escape too quickly, and occasion fatal syncope by the sudden effect produced on the brain. The nates being a little raised renders it also more convenient for arresting the escape of fluid, by compressing the orifice with the finger, and for drawing it off a little at a time, should the little sufferer's strength fail, or the shock be too great to proceed with the operation. It is very necessary to watch carefully the countenance of the child during the operation, as it is a more certain guide in the proceeding than the pulse. The fluid being connected immediately with the brain, the effect of its evacuation is instantly perceptible on the child's features. The operation in the case I relate did not appear to give any pain. The puncture was immediately made safe by applying a pad of lint, well secured by small strips of frankincense plaster, and a pad, formed of cork, secured, in the same manner, by larger strips of the same plaster; over which a large piece of pasteboard was bound on by a roller round the body, as the least liable to be thrown off by accident. On the 24th of November, I punctured the tumour with a flat needle, passing it under the integuments, about one inch from the base of the tumour, and drew off two ounces, by measure, of transparent fluid. The child appeared much exhausted after the operation; but recovered itself after sleeping an hour, and became as lively as before. On the 8th of December, the operation was repeated, and two ounces more were drawn off, with much the same symptoms as on the first occasion. On the 15th, I removed one ounce; on the 22nd, I drew off six drachms of fluid, the symptoms being much the same; on the 30th, I drew off one ounce, when the child became feverish, which state continued for two days. Mild aperients were administered, and the bowels freely acted upon by saline mixture, taken every four hours, which restored her usual health and liveliness. On January 6th, 1825, six drachms of fluid were removed: and on the 20th, nine drachms were drawn off; a few minutes afterwards, the child threw up the contents of the stomach, and became faint for some time; she recovered during the day, but continued weakly for several days. From this time I relied upon pressure applied by means of a piece of tin, formed to the shape of the loins, with holes drilled round to secure a little padding to prevent injury to the back. One which I used had a small box or hollow in the centre, containing a strong wire spring secured to a small piece of tin, about the size of a crown-piece; it did not answer very well, as it was frequently thrown on one side by the motion of the body. I afterwards applied a cork pad, secured by strips of frankincense plaster, and the tin over it was made secure by a bandage round the pelvis. The tumour appeared much diminished in size, and I could not make up my mind to resort again to the puncture of it.

[In 1836, Mr. Hawthorn informs us, one of Salmon and Ody's trusses was substituted for the tin splint, and she continues to wear it to the present time. The remains of the tumour are trifling; and she is, in other respects, well-formed, and an active, healthy young woman.].

Lancet, Nov. 28, 1846, *p.* 582.

DISLOCATIONS AND DISEASES OF JOINTS.

114.—A CASE OF DISLOCATION OF THE SACRO-SCIATIC NOTCH, REDUCED WITH THE ASSISTANCE OF ETHER.

By H. H. RADCLIFFE, Esq., Liverpool.

[This was a case of dislocation of a month's standing. The patient was put under the influence of ether, and reduction attempted; but when the effort had been continued for an hour, and considerable advantage gained, the apparatus broke. Two days afterwards, the patient refusing to be etherized, he was put into the warm bath, and took large doses of emetic tartar. On again attempting the reduction, a much greater extending force was found requisite to move the bone than on the previous attempt; and after two hours the extension was discontinued on account of the pain and struggles of the patient. In three days the attempt was resumed. Mr. Radcliffe says,]

On the 18th the man was induced to permit another effort to be made, himself requesting that the ether might be used. He was bled to incipient syncope, and nauseating doses of antimony being given, the extension was commenced during the inhalation of the ether; under the influence of the latter, he became rapidly affected, so that in two minutes he was insensible, and remained in this state for several minutes. Upon evidence of pain being manifested the inhalation was renewed, followed by the same result; on consciousness returning the second time, the man eagerly called for the bladder, the application of which was attended by a similar result; and this occurred five or six times before the reduction was accomplished, which took place one hour and a half from the commencement of the extension.

During part of the time the man was laughing, although during the intervals in which the patient was passing from under the influence of the ether, until its effects could be renewed by a fresh inhalation, it cannot be denied that he suffered extreme pain. The ether was perfectly successful in lessening to a great degree the pain, and preventing the violent struggles which were obstacles of no trivial amount in the second attempt.

The greatest advantage derived from the use of the ether arose from the relaxation of the muscles which would have otherwise been called into action in obedience to the will, the natural consequence in cases where the patient suffers or even dreads the infliction of pain.

Medical Gazette, March 12th, 1847, *p.* 456.

115.—*Dislocation of the Thumb.*—By W. P. Ormerod, Esq.—The difficulty which sometimes occurs in effecting the reduction of this, must be known to most of our readers. Mr. Ormerod states the suggestion offered by Mr. Wormald, some years since, of making the extension with the elbow and wrist, as well as the metacarpus and joints of the thumb, considerably bent, has been put into force at St. Bartholomew's with the best results. Not only is the reduction more easily operated on when the parts are kept extended, but cases have been in this way sometimes reduced which were otherwise irreducible. The patient should be seated on a stool with his back to the surgeon, and the bent arm and hand brought over the shoulder and behind the neck while extension is made. Other cases, however, resist all means whatever. The difficulty in some of these seems to have been produced by the interposition of the tendon of the flexor longus pollicis. To illustrate this point, Mr. Stanley performed the following experiment on the dead body. "An incision was made across the distal joint of the thumb, resembling that occurring in compound dislocation. The sheaths of the tendon and lateral ligaments were divided, whilst the tendon of the flexor longus was allowed to pass behind the middle phalanx, and consequently between the two bones at the joint, which was dislocated. Great difficulty now was found to exist in reducing the dislocation, which was found to increase in proportion as the sheath of the tendon was divided higher up, and the tendon allowed to pass behind the phalanx higher up, and consequently more directly through the middle of the joint. When, by lateral twisting, the tendon could be brought round the extremity of the bone to its natural situation, the part was immediately reduced; so difficult, however, was the reduction, that it was only by three persons trying with all their force, one after another, that the thumb of a dead man, artificially dislocated, could be reduced.

Medico Chirurgical Review, Jan., 1847, *p,* 69.

116.—*On a New Apparatus for Injuries and Diseases of Joints.*—By Benjamin Barrow, Esq., Fellow of the Royal Medico-Chirurgical Society.—[In consequence of the readiness with which joints inflame, and of the rapidity with which that inflammation spreads, it is of the highest importance that in addition to other treatment, the motions of a joint should be restrained immediately on the first appearance of inflammation in them. It is to this, which he terms the *quiet treatment*, that Mr. Barrow directs particular attention, as indicated in every stage of disease and injury of a joint. The difficulty hitherto felt in combining perfect rest, with the necessary local antiphlogistic and other treatment, is likely to be removed by the use of Mr. B.'s apparatus, for which he received a silver medal from the Society of Arts. It consists of two splints split and padded, to be placed upon the limb, one above and the other below the joint: they are connected by a large steel arc, formed of two pieces which slide upon one another, and allow of the limb being placed straight, or flexed to any angle. It is retained firmly in the desired position, by binding screws which hold the pieces of steel together. Mr. Barrow refers to the important directions of Sir B. Brodie, upon the subject of rest. He says,—]

Not only in cases of inflammation of the synovial membrane, but in all other cases in which actual disease of a joint exists, the disease, whatever it may be, is kept up and aggravated by motion and exercise, and whatever means can be employed so as to keep the joint in a state of complete repose will go far towards the production of a cure. In the early stage of acute inflammation of the synovial membrane, indeed no interference on the part of the surgeon is necessary for this purpose, the pain which the patient experiences, in every attempt made to use the limb being sufficient to prevent him using it. But it is otherwise when the inflammation has in a great degree subsided. At this period the motion of the joint occasions little or no inconvenience at the time, although it invariably tends to aggravate the symptoms afterwards. It is difficult to persuade a patient thus situated to submit to a very rigid system of confinement, and if he should do so, there is always danger in protracted cases that his general health may suffer in consequence. It is important that he should not be altogether deprived of the opportunity of taking air and exercise; yet it is necessary that the affected joint should be kept in a state approaching as near as possible to one of complete repose. This double object may be attained by means of a proper bandage applied so as to restrain the motions of the joint, at the same time that it makes no more than a moderate degree of pressure on it. As to the best mode of carrying this plan into execution, the surgeon must exercise his own judgment in each individual case. If the disease be far advanced, and there is danger of the cartilages being ulcerated, he will find it prudent to restrain the motions of the joint altogether.

Upon these observations I must venture to make one or two comments. The first I would offer is, that there has always appeared to me to exist, even from the commencement of inflammation in the synovial membrane, the *greatest* necessity for keeping the affected joint *perfectly at rest;* for, although pain, however severe, be present in the first stages of the attack, and to such a degree, as in a great measure to prevent all voluntary motion, still we must all be sufficiently conscious of the many involuntary movements as it were, to which our limbs are subject, whether waking or sleeping, not to trust altogether to this pain as a restriction from motion,—motion which must more or less aggravate and increase the irritation already existing in the joint.

Provincial Medical and Surgical Journal, Jan. 27, 1847, *p* 29.

117.—*On the Use of Issues in Diseases of the Joints.*—By Dr. A. C. Brownless, Physician to the Metropolitan Dispensary.—[Dr. Brownless condemns the indiscriminate employment of issues in chronic diseases of the joints, believing that the continual and profuse discharge sometimes kept up by them, is very injurious by weakening the powers of life in diseases where so much depends upon the state of the general health. As to the application of issues, he remarks:]

Issues should be made of moderate size, and before the effects of the one first made are lost by the process of repair of the ulcer being completed, another should be made at a distance from the former, so as to act upon another part of the joint affected, (for here I may be allowed to mention that this is frequently required in joints of considerable size, an issue on one side of a joint often relieving the side to which it is applied, but seeming to have little effect on the part of a joint remote from it.) Before the ulcer made by the last-formed issue is nearly healed, a fresh portion of skin should be destroyed by the caustic, and again and again should this proceeding be repeated, varying its position around the joint; and thus should a regular diversion from the diseased part, be kept up.

There may be reasons in some cases for not carrying out this plan to the letter as regards the destruction of fresh portions of skin on each application of the caustic. In such cases, or where the patient has great objection to it, a new plot of skin need not be destroyed on each occasion that the caustic is used, but Sir B. Brodie's plan of frequently rubbing the old sore with caustic may be adopted; but, as a general rule, I do not consider it so efficacious as the destruction of a fresh portion of skin, nor is the benefit so lasting, and consequently, the caustic requires to be much oftener applied than where fresh skin is destroyed Undoubtedly the latter is attended with more pain; but its duration is short, and it is not followed generally by the irritative consequences of blisters and some other counter-irritants, or, I may add, of issues kept open by peas and pressure. Scars may be regarded as one inconvenience arising from this plan; but if we can obtain greater benefit to diseased joints by the application of the caustic to fresh portions of skin, the scars appear to me to be of trivial importance even in the case of the fair sex; for the joints commonly the seat of disease are, for the most part, clothed, or at any rate may be kept so without any great drawback to the personal charms of any young lady.

The introduction of peas or other bodies for the purpose of keeping issues open, I would in no case recommend. If from any cause it be judged fit to keep open the same issue, let it be touched with caustic, but not kept open even in this way for any great length of time, or it will become comparatively useless.

During the treatment of a very considerable number of cases in which I had the opportunity of employing issues in this way, I found it to be the most efficacious mode of using them; and the principle, although not carried so far, has been fully confirmed in my mind, in a very extensive field for observation, by watching attentively, for several years, the patients under the care of Mr. Vincent, in St. Bartholemew's Hospital.

It is very rarely that this admirable surgeon keeps open an issue by peas, &c.; he does not certainly, as a general rule, destroy a fresh portion of the skin when a former issue is healing; sometimes, perhaps generally, applying the caustic for a few times to the previous issue before destroying another portion of skin to form a new one; but the plan he adopts is in the main the same as I have recommended; for he uses moderate sized issues, seldom keeping them open with peas, and consequently, frequently apples the caustic either to the old sores, or to the skin, to form new ones; and the happy results of his excellent practice have quite confirmed me in my dislike to the common, or, as it is called, "most approved," mode of employing this remedy, and in the value of its application in the manner which I am now recommending.

I conceive it is by the use of the remedy in this way that we may reasonably expect, and do obtain, the greatest amount of benefit from it in these cases, because it is not plethora we have to combat; our object is, not the conversion of as much blood as possible into excrete matters; the lowering the constitutional powers will only render the local malady more active; but we have a morbid and excited action of the vascular system in the diseased part; we wish to modify this action, to moderate this undue excitement, by inducing nature to make a call upon the vascular system, which shall be at once sudden, urgent, and sufficiently durable. We wish (if I may be allowed so to speak) to give nature a more useful field for her workmen, something better to do; we wish to change the sphere of her action by leading her from a diseased to employ herself in a healthy part, and by ourselves destroying a portion of healthy tissue, engage her powers in the processes of healthy restorative action, instead of in those of morbid changes and disorgazation; and we would desire to do this, with the least possible expenditure of the powers of the system generally, and in such a manner as is the least likely to produce constitutional irritation.

Patients experience the benefit of an issue very soon after it is made, if any benefit will be derived from it at all; long before any discharge is established from it. As soon as ever the call is made for the repair of the injury, we see the effect of the remedy. It is for us to keep up this effect, by again applying the caustic, before any ground is lost in the treatment of the disease, by the demand upon the vascular system becoming less urgent by the approach towards completion of the reparative process. By destroying fresh portions of skin we are able to make the demand more imperious, and the effect of our application more lasting.

I suspect parts may become habituated to local remedies as well as the constitution to general ones, so as to be little affected by them after long continuance; and if one may judge from experience, we may suppose such must be the case sometimes with old issues (although they may be large) which have long been kept open with peas; so that if they do not become the source of real evil, by inducing irritation, and the impairment of the constitutional powers, which I think is most frequently the case, we cannot expect much benefit from them.

The very striking benefit almost always experienced immediately after the destruction of a fresh portion of the skin by the caustic, with the continued improvement of the joint during its continued re-application after the proper intervals, according to the principles I have already explained, and, *cœteris paribus*, the little benefit generally felt from the long continuance of the same issue, especially if it be not frequently rubbed with the caustic, are to my mind quite conclusive as to the advantage of the first-mentioned plan.

Lancet, April 24, 1847, *p.* 434.

118.—*On the Removal of Loose Cartilages from the Joints.*—By Robert Liston, Esq., F.R.S., &c.

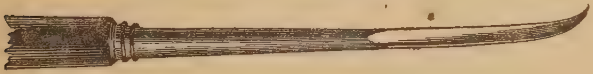
M. Goyrand has proposed an operation for the removal of these bodies "*en deux temps*," and he sets about the first step of it by fixing the foreign body. Having a large transverse fold of skin pinched up, he plunges a very straight, sharp-pointed bistoury under this, and directs the instrument so as to divide the capsule upon the foreign body. This is, if possible, forthwith pushed out of the joint into the subcutaneous cellular tissue. Some days afterwards he cuts the cartilage out by simply making a "*boutonniére*" through the skin.

This is, undoubtedly, a vast improvement upon the old operation of pulling aside the skin, cutting this and the deeper tissues freely upon the foreign body, extracting it if possible, and then permitting the covering to resume its place so as to render the wound so far indirect. Here there was always a risk of the edges inflaming, of their not uniting, and of a suppurating track being thus established in connexion with the synovial cavity. Hence inflammation of the joint, destruction of the cartilages, and a cure(?) by anchylosis, or amputation of the member. This proceeding I practised long ago in some three or four instances; in the last, the patient nearly lost his life, and with difficulty was enabled to preserve his limb. I should be very sorry to repeat the process.

M. Goyrand's operation has, so far as I know, been but seldom attempted either on the continent or in this country. It is very difficult of execution, and is likely enough to fail, even in the hands of surgeons in the habit of performing many and trying operations. In the case of a young woman in the hospital some years ago, I failed most signally, by following M. Goyrand's method, in removing the foreign body from the joint.

Since then I have seen right to modify the proceeding, and have succeeded most perfectly and satisfactorily in four cases. In the case of a young gentleman, I removed no less than five of those bodies at various times. I shall now shortly state the method I adopted in those cases, and in that of Colonel L.

The moveable body, then, is secured in the outer and upper part of the synovial bag, if possible, by the pressure of the points of the fingers and thumb of one hand. The knife, the blade of which is delineated of the full size, is made to penetrate the skin by directing its point perpendicularly to the surface, and at somewhat more than an inch below the substance to be acted upon. By a lateral motion of its blade the integument is freely separated from the subjacent parts, so as to make a bed for the lodgement of the cartilage, somewhere over the space between the tendon of the biceps and the vastus externus. The point of the instrument is then directed to the foreign body, and made to impinge upon it, so as to divide all the interposed tissues and the synovial capsule *freely*, somewhat in the direction of the limb. The instrument is then withdrawn, and the assistant places the point of a finger on the minute opening. The knife is again introduced towards the outer side, and so managed as to complete a pretty large crucial incision of the immediate coverings of the body to be removed. This done, nothing remains but to pass the point of the instrument under the mass, to entangle it, to withdraw it from the joint, and to carry it into the bed previously prepared for it. A bit of plaster is put on each of the openings, and strict rest of the limb enjoined for a few days. There is no occasion, in my opinion, for farther interference. In one case, to satisfy the patient and his friends, one of several foreign bodies, after having been out of the joint for some time, was cut out from under the skin. The patient unfortunately had a hæmorrhagic diathesis, and the wound kept on bleeding for some days, so as to cause a good deal of alarm. I did not then fully appreciate the powers of the gallic acid in arresting those passive oozings. The wound at last healed, and he is now contented to carry several other cartilages lodged under the skin, in the vicinity of the joint, and which do not there cause the slightest annoyance.



I may, in conclusion, mention that the cartilaginous bodies I have thus extracted have been of various sizes and shapes; some the size of beans, and others much larger; some pretty globular, whilst others again have been flat, roundish, and at least three-quarters of an inch in diameter.

Dublin Quarterly Journal of Medical Science, Feb. 1847, *p.* 35.

119.—*Extraction of a Large Cartilage from the Knee-Joint.*—By Francis Adams, Esq., Banchory.—[A case of this kind was related to the London Pathological Society by Dr. Bentley.]

A farmer, aged 25, came under the care of Mr. Adams, about two years and a-half ago, on account of a slight contraction of the left leg. at the knee-joint, of several years' standing. In the course of ten or twelve days, the deformity was remedied by the compound splint and screw, and the limb continued free from uneasiness till last June, when violent pain, heat, and swelling, suddenly supervened in the knee joint; a hard body near the head of the fibula was soon afterwards observed, which, on slight pressure being applied to it, slipped into the joint, and completely disabled him from walking for the time. Its mobility being such that it was impossible to secure it in such a position as not to impede the motion of the joint, it was removed by an incision made by a bistoury through the integuments, near the tendon of the biceps, in which situation the loose body had been previously secured. It was the size of a large flattened bean, and appeared to consist of cartilage with one smooth side, and another rough, where it seemed at one time to have been connected with one of the bones of the leg. It weighed one drachm, eight grains. No unfavourable symptoms followed the operation.

Medical Gazette, Jan 29, 1847, *p.* 204.

120.—REMARKS ON BURSAL DISEASE.

By William Brown, Esq.

[Mr. Brown thinks his cases are illustrative of points connected with this subject treated by Mr. Skey. (Vide Medical Gazette 28th August, 1846.)* Mr. B. expresses his belief that the ordinary seton is more speedily effective in breaking down a consolidated bursa than the single thread, and that itis also quite safe, as the annexed case will prove.]

Thomas L., a young man, the son of a mining captain, and himself a miner, applied with an enlarged bursa of the left knee. He had been latterly subject to much kneeling in his occupation. The thickening had been a considerable time in progress; so much so, in fact, that the case was one of *consolidated* enlarged bursa; but the tumour was not so round in outline as it is in most cases. I began with the plan of Mr. Liston, as followed at the University College

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* Retrospect, Vol. xiv, p. 170.

Hospital, namely, that of powerfully rubbing in a strong solution of iodine, and covering the painted part with a piece of lint, kept on by small strips of adhesive plaster, to prevent volatilization of the iodine. The result was a good bag of yellow serous fluid—a very good blister. The influence of this I encouraged with poultices, &c., but the progress of the case in regard to the real tumour was unsatisfactory, although the general appearance of the knee was improved, from the reduction of the thickened character of the superimposed and surrounding integuments, &c. I now, partly at the suggestion of Mr. Hender, who has successfully adopted the seton in several cases within a period of about twelve years, passed a seton of as many, perhaps, as eight or ten threads through the tumour. Emollient poultices were ordered to be kept on the part, and the seton to be moved to and fro every day. The breaking down of the mass was rapid, and in every way satisfactory, the seton not requiring removal till the breaking down was complete.

I find that setons are available in cases of ganglions also, although it appears that in some other cases they cannot be borne long enough to be successful. Thus, for example, more than twelve months ago, a lad, about 15, was brought with a very large ganglion on the back of the left hand. It was long in shape, and irregular, being narrowed or partially divided at one part. On the hand being flexed or clasped, the ganglion would become fixed, and be made very tense. It materially weakened the hand and fore-arm, and caused, on the hand being at all strongly used, much aching pain. Not having a better instrument at hand, I introduced a very narrow bistoury under the skin at some little distance anterior to the ganglion, and passed it on through this, but unfortunately not far enough to pass through the other end of the tumour. I say "unfortunately," because the case illustrates what I think to be the general error in the treatment of ganglions by "puncture," as it is called. Thus, if you burst a ganglion by the old practice of striking it with the back of a book, the contents escape, not externally, but in the surrounding cellular tissue, where the thick glairy fluid which constitutes it acts as a foreign substance, causing an increased action, by which not only the fluid itself is absorbed, but the sac so re-acted upon is more likely to become obliterated. The operation, therefore, should be commenced on the subcutaneous principle, and the instrument carried through the distal wall of the sac, the fluid being pressed out through *that* aperture into the surrounding cellular tissue, instead of being squeezed out at a mere puncture in the surface. This practice has been, I believe, found uniformly successful by Mr. Liston, and it is that which he inculcates. To return to the case that I was describing. After squeezing out the contents of the ganglion, I applied a compress: the opening closed up, but there was still a sac and fluid left. After a little time I passed a small seton through the tumour. On seeing the case on the third day, I found the inflammation to be considerable, and there was febrile disturbance. The seton was withdrawn, and bathing and poultices ordered. An aperient, and saline diaphoretic medicines were given, after which the case very speedily, and without any further trouble, did well.

In disease of the bursa over the patella, a blister, or a succession of blisters, is commonly used in recent cases, and in those where the contents of the tumour are still fluid; but many cases occur of the following kind, which do not require any remedy so severe as a blister. A person has been kneeling much; and at length finds a pricking, heating, and pain, at the front of the knee, together with a stiffness of the joint, and an inability to stand or walk firmly. The front of the knee is hot, red, tumid, and tender, but the bursa does not as yet contain much fluid. The joint is ordered to be kept at rest, a purgative is administered, a few hot poultices are applied, with perhaps some common liniment, containing ammonia, and all becomes well. But, in the cases which are more advanced, where the bursa is distended to the size of a small orange, and there are the symptoms of very active inflammation, I believe that there is a remedy, which is available in an earlier stage, productive of less pain, and more speedy and certain in its effect than blistering would be. I allude to the tartar-emetic ointment, with or without a portion of mercurial ointment, as spoken of by me in the *Gazette* of April 17th, 1846, in some remarks on injuries to the elbow joint, and consequent enlargement of its bursa.

James Langsford, æt. 37, a slight man, by trade a carpenter, had been kneeling much in his occupation for some days. Inflammation was induced in the bursa of the left knee. After three or four days he sent an account of his case to us, in order to have some medicine. This was on August 19th. Dr. W. B. Hender gave him a dose of cathartic pills, containing two grains of calomel, and three small powders of calomel and compound powder of antimony, and ordered hot applications to the knee. On the 21st I saw him. There was febrile disturbance, great enlargement of the front of the knee, and intense heat and redness. The bursa was distended to an unusually large size, and had a feel and fluctuation as if the contents were puriform. The man objected to the swelling being opened. I then ordered him to bed, that the limb might be kept quiet, and in an elevated position; and further directed that the knee should be kept wrapped completely round with large hot barley-meal poultices, changed every four hours. On the 24th I ordered the effectual rubbing in of tartar-emetic ointment, to which had been added a portion of mercurial ointment, with a continuance in the use of the emollient applications in the intervals. The result was a very speedy decrease of the enlarged bursa and of the surrounding swelling. After leaving him on the 21st, I felt some pleasure at falling in with Mr. Skey's authority, as to the safety, and, in proper cases, as to the desirability of the plan of opening these bursæ. (I am aware that Mr. Samuel Cooper speaks of the necessity of sometimes opening them when there are the loose melon-seed-like granular bodies in the glairy fluid.) In not adopting the plan here, I was not influenced by any supposed communication between the bursa and the knee-joint, and I cannot but think,

Charing Cross Hospital
Students Room

with deference to Mr. Skey, that he misunderstands the nature of the general prejudice against the opening of bursæ, when he places it on such a ground. The remark may apply to practitioners whose education took place at a remote period, but it surely cannot do so to many others. The prejudice, as I have understood it, is founded on the idea, that the opening of all synovial, or pseudo-synovial, cavities, so as to admit air, is likely to be followed by bad consequences, in the shape of inflammation, suppuration, &c.; and on the idea, or fear, that those consequences may affect the neighbouring joint from the propinquity of the bursæ to it. However, the following case, which has occurred to me since seeing Mr. Skey's paper, fully bears out his doctrine as to the perfect safety of opening bursæ when in a state of inflammation, and as to the propriety of opening them in certain instances.

Mr. J., about 50, thin, a carpenter. Had lately been much kneeling on a ladder in painting houses; the left knee became sore and painful. I found the front of the knee red, hot, and somewhat swelled, but the bursa itself was not much distended. I gave him a purgative, and ordered rest for a few days, with bran and vinegar poultices. The next day the knee was better, and he worked again. About ten days after he again applied to me; this was on the 24th ultimo. The bursa now was constantly distended; there was great heat and swelling around. I ordered him to bed, with barley-meal poultices enveloping the knee, and a purgative was prescribed. The next day he obstinately got down again.

To rub in the tartar-emetic and mercurial ointment, and to continue the poultices.

Sept. 27th.—The swelling about the knee was great. The fluid in the bursa seemed to be puriform. He had a dose of purgative pills that night, and a saline diaphoretic draught the next morning.

28th.—I punctured the bursa. At first coagulated blood came, then thick pus freely.

He was ordered to use moderate-sized linseed-meal poultices.

Oct. 1st.—The whole of the swelling had gone down, and everything was looking well.

Medical Gazette, Nov. 6, 1846, *p* 797.

121.—*Treatment of Enlarged Subcutaneous Bursæ.*—By W. P Ormerod, Esq.—When matter has formed in them, the only means is the evacuation of the fluid by a free opening: this is unattended with danger, and followed by a rapid and complete cure. When, however, the bursa is recent, the skin thin, and the fluid probably a mere increase of the natural secretion of the cavity, the employment of blisters, or the external application of the tincture of iodine, is the best means of lessening the swelling; but it will probably return. For a complete cure, or in those cases where the swelling does not yield to the application of blisters, or to the external application of iodine, more especially if the swelling be not large, the best plan of treatment is to introduce a fine thread through the swelling, and use it as a seton. On the second day this thread generally causes considerable pain, and requires withdrawal. A small quantity of puriform fluid passes for a few days through the opening, after which the swelling gets gradually less, and contracting, is completely cured. Very frequently the bursa suppurates so freely as to require a free opening, the hole for the thread having closed. Although this is an extra source of pain, yet the cure is more complete, and quite compensates for this accident. Removal of bursæ simply for their inconvenience is a serious matter.

Medico-Chirurgical Review, Jan. 1847, *p.* 70.

122.—*Death following the Removal of a Bursal Tumour from the Patella.*—By Henry Smith, Esq., late House-Surgeon to King's College Hospital.—[Mr. Smith relates a case of the above description which terminated fatally. The patient, a female, æt. thirty-two, had an enlargement over the patella: it was hard and apparently solid, and of several years standing. He says,—]

Aug. 11. I removed the tumour by making a longitudinal incision through the skin to the surface, and then carefully dissecting on each side, and removing the whole mass from the patella. The operation was rendered a little difficult from the skin being intimately adherent to the surface.

The nature of the tumour was rather remarkable. It was solid, hard, almost cartilaginous, surrounding, as it were, the cavity of the bursa, which was found in the centre, apparently healthy. The edges of the wound were brought together by stitches and adhesive plaster, and the limb placed in the straight position.

12th. Wound looking healthy; no inflammation around it.

14th. She has been very feverish; a blush of erysipelas has appeared around the knee, and red streaks are apparent in the thigh as far as the groin, where the glands are enlarged. I applied the lunar caustic over and around the inflamed parts, and ordered a saline mixture.

15th. The erysipelas has not extended further, but there are evidences of more severe mischief deeper. There is a large tense swelling as big as the fist above the patella, and it is evidently full of fluid. She complains of excruciating pain about the knee. She has been vomiting constantly, and is very restless. As the swelling did not appear to be in the joint, and it was very tense, I made two punctures with a narrow bistoury, and evacuated a considerable quantity of bloody serum. I ordered twelve leeches to the part, and calomel and opium to be taken frequently.

16th. She has been relieved from her sufferings by the remedies, but the inflammation appears to be running on unchecked. The whole knee and thigh are much swollen. Tongue is brown; pulse feeble. To apply eight more leeches. Continue calomel and opium; take some ammonia.

17th. The tissues about the knee, and the whole of the thigh, are enormously swollen; just above the joint on the outer side, where the swelling is most prominent, there appears to be deep-seated matter. A bistoury was carried deeply down in that situation, and a quantity of unhealthy looking matter escaped. The constitutional symptoms are uncommonly severe. To apply poultices and fomentations to the limb, and to take wine and ammonia.

18th. After having passed a dreadful night, she died at seven a.m., just a week after the operation. I was allowed to examine the limb.

The whole limb was enormously swollen.

The tissues under the skin were much infiltrated with a serous fluid. Just above the knee-joint, where most swelling was observable during life, the chief mischief was found. A large cavity, into which I could put my fist, was found; it was nearly empty, but it contained some dirty-looking pus. I found that I had carried the knife, during life, quite into the centre of this large abscess. The inflammation did not appear to have attacked the joint itself, as I had anticipated.

This is one of those unfortunate accidents which have not unfrequently, I believe, happened after operations in such affections. It is this circumstance which has determined many surgeons to be very chary about using the knife in cases of diseased bursa of the patella. Mr. Samuel Cooper, in his First Lines, says, "We ought not to open bursæ mucosæ without a real necessity for it, for we occasionally hear of cases in which patients lose their lives in consequence of the limb being attacked with phlegmonous erysipelas." Some surgeons, on the other hand, have no more hesitation in removing such a tumour from the knee than from any other part of the body, and I must say that I have seen extirpation of the bursæ performed to the great comfort of the patient, and without any bad symptoms following; but that the deplorable consequences which Mr. Cooper speaks of are liable to follow such operations, my case too unfortunately proves.

Medical Gazette, Nov. 27, 1846, *p.* 951.

AMPUTATIONS.

123.—COMPARISON OF THE CIRCULAR AND FLAT OPERATIONS.

By W. P. ORMEROD, Esq., House-Surgeon to St Bartholomew's Hospital.

[In the thigh and leg, after amputation, it not uncommonly happens that everything looks well for a few days, but that then some matter forms, or the limb jerks, or is hot, or the skin gets just a little tight at one part over the bone. In these cases the flap-operation succeeds better than the circular, for it rarely happens that the skin of the circular operation can be got well forward again after it has once begun to retract, or become tight, whilst the mass of muscle and soft parts of a flap can often be brought down again after they have retracted very considerably. In the thigh, puncture of the artery, above its division, is readily avoided in the flap-operation, and cannot well be done in the circular.

In the leg, the artery may readily be punctured in passing the knife behind the limb, and wounded above its division; still this is no real objection to the flap-operation below the knee, as the same accident may happen from the use of the catlin. The rapidity of the flap-operation, as compared with the circular, is some advantage, but the whole operation is not necessarily shorter, for the number of arteries to be tied in the former case is generally greater than in the latter. During the last few years the double-flap operation has been performed upon a large number of patients at St. Bartholomew's, by Mr. Stanley, and with the best result. In many of these cases, at their termination, the full soft condition of the face of the stump, the complete depression of the bone in the line of the union of the flaps, or beneath the front flap of the thigh, have been most marked, whilst the effects of inflammation, in rendering the stump tense, have been very much less than where the same accidents occurred after a circular operation.

Medico-Chirurgical Review, Jan., 1847, *p.* 71.

124.—*On Amputation of the Thigh, &c.*—By C. Cotton Esq., M.D., Surgeon to the West Norfolk and Lynn Hospital.—In largely developed muscular limbs, from the extent of surface requiring to be exposed, and the difficulty I have sometimes witnessed and experienced in securing the vessels, particularly in amputations immediately below the knee, it has struck me that in forming the flaps the muscles might be advantageously transfixed less deeply, and the operation completed by circular incisions. Whether circular amputation at the lower third of the thigh, "where circumstances afford room," ought to supersede the division at its centre, as advised by Mr. Liston, for securing the most efficient and convenient stump, time and experience must decide. Influenced by a desire to divide the soft parts as little as possible, and spare blood, I adopted the plan in one case, that of Timothy Robinson, an adult youth, much exhausted by long disease; the recovery owing to constitutional fault, though tedious, was complete, and he experiences now no inconvenience from the length of the remaining limb.

Should it be hereafter determined that the place of election, (circumstances permitting), may be best chosen at the lower third of the thigh, but few, I suspect, will feel inclined to relinquish the flap-operation in favour of the modified circular method recommended by Professor Syme.

Although Professor Syme now frankly ceases to advocate sawing through the condyles of the femur, his three successful cases of amputation at the knee, in two of which the joints were diseased, coupled with the favourable results (twenty-one out of twenty-four), of his tibio-tarsal amputations, are, nevertheless, of the highest value. These, together with the joint-amputations of M. Blandin; the recent successful excision of the head of the femur, by Professor Fergusson; that also of the head of the tibia and condyles of the femur, by Dr. Gordon Buck; and the invariable rule of practice laid down by M. Bonnet, and attested by published cases,—that, in all vicious positions of the knee, owing to acute or chronic disease, no matter the stage, inflammation and pain are allayed by straightening the limb—do not, in my humble opinion, justify the extreme fear of interference with the larger joint-ends of bones, or their diseased articular surfaces, so generally entertained.

During the last two years, in three cases of synovial distension of the knee, occurring quickly, and extending upwards beneath the muscles of the thigh, one from an arthritic attack, I have tapped beneath the muscles, and let out the fluid without inconvenience. Since January last I have, by straightening and fixing the limb upon a M'Intyre splint, treated successfully three cases of advanced disease of the knee in adults, attended with considerable effusion into the articular cavity, thickened and distended synovial membrane, and probably damaged cartilages, with permanent semiflexion of the leg. A fourth case, a boy, under treatment, and at present doing well, was admitted into the hospital exhausted by hectic fever and incessant diarrhœa, and during the extension the integuments in the ham yielded, and were widely separated.

I have witnessed and experienced such excellent effects from the use of the trephine in cases of scrofulous caries of the shaft and extremities of the tibia with implication of the joints, that I think this instrument may be frequently and advantageously employed in such cases, as well as in those of thickening of the bone with severe intermitting pain, &c., recommended by Sir B. Brodie. In the case of a boy about to leave the hospital "cured," with an apparently sound limb, having been under treatment since September, 1845, and twelve months previous to entering it, for enlarged head of the tibia, effusion around the joint thought to be within it, partial necrosis of the shaft, ulceration of integuments, greatly thickened periosteum, *(a condemned knee)*, I pierced the shaft with the trephine twice, and removed portions of carious bone, and applied it once also to the head of the tibia, and gave exit to a perfect pool of sero-purulent matter, apparently proceeding from an abscess within the cancellated structure. A seton carried close to the side of the joint, supporting the constitutional powers, &c., in spite of an attack of phlegmonous erysipelas, served to complete the at present cure.

Provincial Medical and Surgical Journal, Dec. 23, 1846, *p.* 609.

125.—*On Tibio-Tarsal Amputation.*—By M. JULES ROUX, Professor of Anatomy and Physiology, Toulon.—[M. Roux thinks that Syme's operation is rendered easier of performance by a modification which he himself has introduced. He says:]

In No. 98 of the ward for the wounded, in the hospital of the prisoners at the galleys in Toulon, lay the condemned 31,513, aged thirty years, of lymphatic temperament, a cap-maker by trade, who had yet thirty months to pass at the galleys to complete his sentence of five years to hard labour. Since the age of eighteen years, he has continued to suffer in the right foot from the effects of a sprain. Abscesses formed, which left numerous fistulous openings on the back and sides of the foot, from whence a purulent discharge continually escaped. Since his condemnation, walking has been so difficult and painful, that he has passed all his time in the hospital. Having established the diagnosis that the bones of the right tarsus were affected with ostitis and caries, and that the tibio-tarsal articulation was sound, I determined to perform the operation of Mr. Syme of Edinburgh, somewhat modified by myself, in the following manner:—

The operator, holding the foot in his left hand, carries with his right the blade of a strong knife to the posterior parts of the external surface of the calcaneum. The incision is then brought in a straight line under the external malleolus. From this point it describes a curve—the convexity forwards—until it reaches the edge of the internal malleolus, the centre of the curve passing two or three centimetres from the inferior extremety of the tibia. From the internal malleolus the incision is continued, under the sole of the foot towards its external edge, forming a second curve, with its convexity forwards, corresponding to the articulation divided by the knife in Chopart's operation. From the external edge of the foot the incision is continued obliquely above the posterior and middle external surface of the calcaneum. In this manner all the integuments and soft parts are separated to the bone. In the second stage of the operation the neighbouring soft parts of the articulation are dissected and separated from the bones, in such a manner that this articulation remains bare, and the two malleoli, especially the external and the outer surface of the calcaneum, are completely exposed. In the third stage, the articulation is attacked at first externally and then internally. In the fourth stage, it is necessary to dissect the parts which adhere strongly to the posterior and inferior surfaces of the os calcis, and then to detach those which fill the internal surface of the same bone. For this purpose it is necessary that the bistoury, having divided the internal lateral ligaments of the tibio-tarsal articulation, follow the curve on the internal surface of the calcaneum. This last stage is very important, if we wish to avoid the division of the posterior tibial artery before its bifurcation into the plantars. The foot thus detached, after the division of the muscles inserted into the great tuberosity of the os calcis, leaves a wound of a slightly irregular oval form, or rather that of a racket, the narrow end of which corresponds to the external surface of the calcaneum. In the fifth stage the malleoli are sawed off transversely, on a line with the articular surface of the tibia, which remains intact. In the sixth stage, the arteries are tied, the wound cleansed, the edges brought in contact by sutures, in such a manner that the skin of the heel is applied to the inferior surface of the tibia. A bandage is then applied, the patient placed in bed, with the leg moderately flexed on the thigh, reposing on its external surface.

This operation, which lasted ten minutes for the entire separation of the foot, was followed, 1st, by venous hæmorrhage, which continued forty-eight hours; 2dly, gangrene of the interior third of the plantar flap, attributable to the division of the posterior tibial artery above the point where it divides; 3dly, formation of a false membrane on the wound; 4thly, abscess in the inferior and posterior parts of the leg.

At present, nearly three months after the operation, the patient has been for some time completely cured. The right leg resembles the thick end of a pestle, the extremity of which is entirely covered by the skin of the heel, resembling an elastic cushion. In the outline of the cicatrix, however, which is very solid, there are still two fistulous points, from which escape from time to time, small drops of serosity. The patient can already support himself on the extremity of his stump without experiencing the slightest pain; yet I have not thought it proper, perhaps from an excess of prudence, to allow him to walk with the boot which has been made after the figure given by M. Baudens. The ultimate result I shall make known in a memoir, in which I shall endeavour to show—1. The advantages of the tibio-tarsal amputation; 2. The superior advantages of Mr. Syme's method to that of M. Baudens; 3. The preference that it will be perhaps advantageous to accord to my mode of proceeding in preference to that of the Edinburgh professor; and 4. The necessity of banishing from surgery amputations in so-called places of election, and of establishing the great principle, that *it is always necessary to amputate as far as possible from the trunk*, especially since M. Malgaigne has successfully carried the knife into the articulation of the calcaneum and astragalus.—*Annales de Thérapeutique*, Novembre 1846.

We are happy to find that the operation first made known to the profession by Professor Syme, through the medium of this journal, is becoming gradually more extended. When generally practised, we have no doubt it will be acknowledged to form one of the greatest improvements in modern surgery. In this opinion we are supported by the testimony of Professor Chelius, of Heidelburg, who personally informed us last August that so it was considered by him. We had then the pleasure of seeing a patient in the Clinical Hospital of Heidelberg, who, instead of having his leg amputated immediately below the knee, had the foot only removed by means of Mr. Syme's operation. In this case the stump was nearly well two weeks afterwards.

The description of M. Roux's operation is complicated and obscure. It does not clearly appear in what the peculiar modification consists, unless it be sawing off the two malleoli on a level with the articulating surface of the tibia, instead of removing it by taking away a thin slice of that bone. Such a modification would obviously be improper in cases where caries affected the articulation, and of very questionable advantage even when it is sound, as leaving the cartilage would probably retard the cure. Our readers will recollect that Mr. Syme has recommended, as the best method of performing the operation, to cut across the sole of the foot, from the centre of one malleolus to that of the other, and always to saw off a thin slice of the tibia, connecting the two articular projections. The advantages of this method are, that the flap is long enough, there is no risk of sloughing, and the recovery takes place in a few weeks, instead of being retarded to months, as in the above case.—Ed. Mon. Jour.

Monthly Journal of Medical Science, Dec., 1846, *p.* 456.

ORGANS OF CIRCULATION.

126.—ON THE TREATMENT OF ANEURISM.

By Dr. O'Bryen Bellingham.

[The subject of Aneurism is so important, and the modern methods of treatment so various, especially if we include that of subcutaneous nævus, that we have more than once inserted papers on this subject from the different journals, which had already appeared in our pages. This remark applies also to some parts of the following abstract, with additional interesting matter.

To coagulate the contents of an aneurismal sac, certain agents have been proposed, which have this effect upon blood out of the body; and among these, are heat and galvanism. Sir E. Home was the first who employed *heat* in this manner: Dr. Bellingham quotes the account of his case from the Philosophical Transactions for 1826.]

Case in which Heat was employed to Coagulate the Blood in an Aneurismal Sac.—The case was one of aneurism of the external iliac artery; the vessel had been tied upon the distal side of the sac, September 16th, 1825, but as the pulsation continued to be strong, and the tumour continued to increase in size, Sir E. Home resolved to endeavour to coagulate the fluid blood in the sac by means of heat. Accordingly on the 28th day after the operation, "he introduced an acupuncture needle into the centre of the sac where the pulsation was most violent and the fluid state of the blood most distinctly felt; the needle was passed through a small orifice in a bar of steel, and was heated by a spirit lamp, the integuments of the thigh being guarded by means of cork. The application was continued for fifteen minutes, the patient felt heat and pain in the centre of the tumour, but not severe, and the pulsation diminished; on withdrawing the needle, the orifice was marked by a single drop of coloured serum. In half an hour intense pain was felt in the thigh; but this was not only removed in ten minutes by twenty drops of laudunum, but the thigh and leg became more easy than they had been for the previous twelve hours, and the throbbing in the sac was reduced to an undulation."

"For two days the tumour was easy, and the pulsation had become less under the punctured part than higher up towards the belly. The tumour not diminishing, the operation was repeated on the 34th day from tying the artery; the needle and bar of steel being double the size of those before used, and the application was continued for 35 minutes. The internal heat was greater than before, and the pulsation in the tumour much diminished. The needle was with difficulty withdrawn, a coagulum as hard as sealing-wax, the size of a pin's head, being firmly attached to the middle of the needle. The pain the operation produced subsided in ten minutes, the internal heat continued 24 hours, and the tumour had now a solid feel: he was quite easy for two days, but on the third the pain and pulsation returned, also the inward pain in a still greater degree than while the needle was immersed, and the tumour was extremely tense. Under these circumstances, on the 44th day after tying the femoral artery, I repeated the application with a needle and steel double the size of those last employed: the heat felt internally was very great, but the pain was not much increased. After it had been immersed 20 minutes, the pulsation all at once stopped, and the needle was immediately withdrawn; the pain in ten minutes went off, and the patient was quite easy. From this time there was no pulsation in the tumour, which to the feel appeared solid, and therefore I considered the progress of the aneurism arrested. This was in some measure proved by the pulsation remaining violent in the external iliac artery down to the part pressed upon the sac, but no further."

Some time subsequently grangrene attacked the foot of the affected side, which extended up the limb, and the patient sunk 46 days after the last application of the heat. On a post-mortem examination "the coagulum in contact with the sac was found to be similar to that usually met with in large aneurismal tumours; within that there were innumerable thin firm laminæ, and the innermost portion was in the state of jelly."

Galvano-puncture.—In the year 1832, Mr. Benjamin Phillips of London, published a little work entitled—"A series of experiments performed for the purpose of showing that arteries may be obliterated without ligature, compression, or the knife," in which this was proposed to be effected by transfixing them with needles. The experiments were made upon the femoral and carotid arteries of dogs. In the appendix to this work, the author proposes to assist the action of the needles by passing a galvanic current along them. M. Pravaz, upon the continent, appears to have put forward the same idea; and Lisfranc, in his work on Aneurism, mentions that M. Pravaz, in conjunction with M. Guérard, performed an experiment upon a rabbit with the object of determining the power of galvanism applied in this way; the aorta of the animal was opened, and the galvanic conductors then brought into contact with the orifice; the blood, which was escaping in jets, was checked, owing to the immediate formation of a coagulum.

Cases of Aneurism in which Galvano-Puncture has been employed.—Neither Mr. Phillips nor M.M. Pravaz or Guérard appear to have ever employed this method in aneurism. The first case that I have found recorded in which an attempt was made to coagulate the contents of an aneurismal sac, by conducting a galvanic current along needles introduced into it, is contained in the Transactions of the Medical and Physical Society of Calcutta, to which it it was communicated by Dr. O'Shaughnessy; it was very fully fully reported in the *Dublin Medical Press* for October 5th, 1842.

Case 1.—The aneurism was supposed to spring from the right carotid near its root, or from the innominata (but proved on a post-mortem examination to be an aneurism of the aorta). In consultation it was determined "to tie the right common carotid upon the distal side, and afterwards to promote the coagulation of the blood in it by acupuncture and galvanism, should the ligature fail to produce that effect." "The application of galvanism was suggested by Dr. W. B. O'Shaughnessy, who undertook to conduct the experiment."

Two days after the ligature of the carotid, the galvanism was applied as follows:—The battery being arranged, two acupuncture needles, coated with asphaltum, all but at the points and near the haft, were introduced from opposite sides of the tumour into the centre of the sac, without being allowed to touch each other: to these needles thin wires were attached which were brought in contact with the battery, so that the blood in the tumour was made to form part of the circle. Each time the circle was completed (which was repeated five times, for a second or two each time), the patient suffered a good deal of uneasiness (like thumps upon the part), and his voice became peculiarly hoarse; on the needles being withdrawn, a drop or two of coloured serum exuded." On the following day the operation was repeated, the needles being introduced at different points. The patient died suddenly some days afterwards, and the tumour in the neck was found to be merely an offshoot from an aortic anurism, not containing blood, but filled with an inodorous and sanies-like fluid.

At a meeting of the British Association held at Cork in August, 1843, in the debate which followed the reading of a case of popliteal aneurism treated by compression, Dr. Wm. Bevan of this city is reported to have suggested "that the coagulation of the blood during the employment of compression might be assisted and promoted by passing slight galvanic shocks through the sac."

At a meeting of the Academy of Sciences, held October 20th, 1845, M. Petrequin, surgeon-in-chief of the Hôtel de Lyon, read a memoir "On the treatment of certain aneurisms by galvano-puncture," from which it would appear he was under the impression that he was the first to employ this method in aneurism, and that M. Pravaz alone had suggested the idea. In this memoir M. Petrequin has related two cases in which he used the galvano-puncture; one was successful, the other not.

[In these cases no means were adopted to retain the blood in the aneurismal sac during the passage of the galvanic current through it; but M. Petrequin recommended that in future, "compression should be made upon the sac to effect this, (as suggested by Dr.

Bevan), and likewise that the needles should be isolated by a coating of varnish." Without being acquainted with this suggestion of Dr. Bevan and M. Petrequin, Dr. Bellingham tried the galvano-puncture in a case which occurred last winter, combining it with pressure upon the artery, above and below the aneurism. The operation was accompanied by great pain, and by numbness of the calf and heel. When the patient died, (which was from erysipelas of the limb), it was found that the sciatic nerve had been wounded by one of the needles. Three months before this, a M. Ciniselli had treated a case in a similar manner, except that the compression had only been applied on one side, the cardiac, of the tumour. The following are the particulars:]

Case 5.—The aneurism was seated in the ham. On the 22nd of January, 1846, the treatment was commenced as follows:—"The patient was laid on his right side, and a tourniquet was put on the thigh high up. Four very fine steel needles, fifty-six millimetres long, were introduced into the aneurismal tumour near to each other. Two of the needles were introduced on the inner side, taking care to avoid the trunk and branches of the saphena vein, and their direction was from above downwards; the two other needles were introduced on the outer side, also from above downwards in such a way as that the needles of opposite sides should cross each other within the tumour without touching each other. This done the tourniquet was tightened on the femoral artery, merely to the extent of stopping the pulsation in the tumour and artery without affecting its size or tension; a pile made on the instant composed of twenty-one pair of plates, ninety-three millimetres square, connected by bits of cloth steeped in a solution of common salt, was then applied by means of a couple of slender silver wires held in the naked fingers, and the electric current was soon in action; but as it was found very weak, the number of plates was increased after three minutes to thirty pairs, the action of which was continued for twenty-five minutes. A single needle only was touched with each pole of the battery at a time, but every two or three minutes the contact was changed to another, so that each needle received the current in succession, and of course passed in every direction. Each new contact of the wires with the needles produced a smarting in the tumour, then contraction of the muscles of the calf, and a kind of shock in the sole of the foot. To remedy these unpleasant effects the needles were removed, and while the compression on the femoral artery continued to prevent pulsation in the tumour, the latter was enveloped with a bladder of ice; the compression was then taken off the vessel, and the ice continued for six hours, at which time the pulsation in the tumour was as before the proceeding had been commenced.

At noon on the 23rd (twenty-four hours after the galvano-puncture) there was no longer any throbbing in the tumour; the patient got out of bed, and walked some steps, but continued to feel a slight stiffness in the leg. The following days the tumour gradually diminished in size, and became more firm, the lateral depressions at the knee showed, the stiffness of the joint disappeared, the leg could be completely extended, the motion in walking became free, and there only remained a slight sensation of weight in the foot".

In the *Revue Medicale* for August, 1846, M. Petrequin has related another case in which the galvano-puncture was successfully employed by him; the aneurism was seated at the bend of the arm.

[Another case treated by galvano-puncture is related by Mr. Hamilton, in the Dublin Quarterly Journal, for November, 1846. The aneurism was in the left carotid, at the level of the cricoid cartilage, and the treatment is thus described:]

May 15th.—A thin gold needle was passed into the sac on the outside until it had penetrated to about an inch, the same was done on the inside, the needles could be made to touch in the centre, and were isolated, except at the point, by shel-lac. A Smee's battery of twelve zinc and silver plates was used, which was regulated by Mr. Fagan. The action was given very gradually by, at first, only immersing the plates to two or three inches. When the whole force of the battery was used it only caused moderate pain, and produced slight contraction of the muscles. At the end of fifteen minutes the aneurism appeared to beat with less force. After this the pulsation became evidently less, the tumour firmer and larger, and he began to complain of uneasy weighty sensations, and very severe pain, which he compared to his throat being held fast by the teeth of a dog. He said he suffered much from pain in the left side of the forehead; the sensations in the tumour were very distressing, and those in the head, from their violence, assumed rather an alarming character; but the most serious symptom was the great increase of the swelling: this seemed the chief cause of the pain and the tight feel in the throat.

At the end of twenty-five minutes complete coagulation had taken place in the aneurism, which felt solid, and pulsation was imperceptible; for these reasons the galvanism was discontinued. The integuments round the positive needle were observed to vesicate and to turn black for the size of a spangle; on withdrawing it, there was a slight flow of blood, but none from the puncture of the negative needle.

So far, therefore, as the solidifying of the blood in the aneurism, the operation had succeeded, but not without considerable grounds of uneasiness. The unpleasant feel in the head continued, with the pain over the left eyebrow; the pupil was observed to be contracted, and there was loss of sight in the left eye. He complained much of the tightness in his throat, and the tumour was three or four times larger than previous to the application of the galvanism.

After the 17th of the month pulsation returned in the tumour. The patient died of the disease for which he had been admitted on the 8th of June, a little more than three weeks after the application, and a few days before death the pulsation in the aneurism ceased.

On examination, the aneurism was found to spring from the anterior part of the common carotid; "below the aneurism the trunk of the carotid was sound, but both external and internal carotids were much reduced in size, and so much obstructed that a probe could not be passed through them into the aneurism."

A section of the aneurism showed the contents to be solid, the centre occupied by clotted blood of the colour and consistence of black currant jelly; from a quarter to half an inch from the margin the layers were of a pale red colour, and had a fibrous arrangement, exactly resembling muscle.

In the remarks appended to this case, the writer observes—"As far as coagulating the blood in the sac, the application of the galvanism in this case was successful, complete coagulation having been effected by it. From the proximity of the carotid artery to the heart, and the direct course of its trunk (both favouring the rapid current of the blood), as also from the very free anastomosis with the numerous branches of the corresponding artery, an aneurism in this situation is one least likely to preserve the coagulum formed by the galvanism. In the present instance, likewise, a successful result may have been prevented by the total impossibility of using sufficient pressure to obstruct the current and prevent its washing away the newly-made clot. To be completely successful, repetition of the operation would have been required; my reasons for not deeming this advisable have been already stated.

The cause of the rapid enlargement of the aneurismal tumour the writer refers "to the galvanic influence extending beyond the sac, and coagulating the fluids in the cellular tissue around it, the coagulated matter having been afterwards absorbed.

[The *modus operandi* of galvanism in forming a coagulum from blood, is thus described by Dr. Apjohn.]

When the circuit of a battery of moderate strength is completed through the serum of blood removed from the body, its albumen is coagulated at the positive pole; and there can be little doubt that if the blood contained in an aneurismal sac were subjected to the same influence its serum would undergo a similar change. As to the cause of the coagulation, it appears to be due to the decomposition, or, as Mr. Faraday terms it, the *electrolysis* of the salts of the blood, and the action on the serum of the acids developed at the anode or positive pole. The coagulation of the albumen is not, therefore, a direct consequence of the galvanic current, but arises from the analytic action exercised by it upon the saline constituents of the blood.

If the battery is very powerful, the effect upon the serum may extend throughout the entire of the space separating the poles. But even in such a case, the coagulation is not, I believe, due to any specific agency exerted by what is called the galvanic current, but to the elevated temperature produced along the line of its trajet.

The coagulum developed by the action of the galvanic current upon blood would, therefore, appear to consist of *albumen*, derived from the decomposition of its serum; such a coagulum will be necessarily loose and flocculent, and altogether different from that which forms in an aneurismal sac under ordinary circumstances.

In order that the albumen of the serum of the blood contained in an aneurismal sac may be coagulated, it would seem to be essential that the blood should be retained in it for a sufficient length of time to be acted on by the galvanic current; consequently, compression ought to be made upon the artery above and below the sac during the operation; if this precantion is not taken, the blood will pass through the sac too rapidly to permit of its decomposition.

[Upon the whole Dr. Bellingham is of opinion that is impossible by means of galvanism to form a coagulum sufficiently large to fill the sac of an aneurism, or so firm as to resist the current in a large artery. He thinks that when pulsation in the aneurism *has* ceased after the employment of this agent, it may be accounted for in the following manner. He says,]

It appears to me that there are two distinct modes in which such a result may be brought about.

According to the first, compression upon the artery above and below the sac is indispensable during the operation; when the galvanic current is completed, the albumen of the serum of the blood contained in the aneurismal sac is gradually coagulated, and on the discontinuance of the compression, the coagulum thus formed is forced out of the sac, and carried with the blood into the artery at the distal side of the sac, the channel of which may be thus blocked up. If a distinct coagulum of the fibrine and red globules forms at the same time (in the way to which I have alluded), it will render the chances of the artery below the sac being obstructed, still more probable. It is easy to understand how a comparatively small and loose coagulum could produce this effect; and it is clear that if the artery at the distal side of an aneurismal sac were thus closed up, the pulsation of the aneurism might cease at once, or the cure of the disease would be readily accomplished by moderate pressure afterwards upon the artery at its cardiac side.

The other mode in which the galvano-puncture may cause the cessation of pulsation in an aneurism, and that, perhaps, which is the most frequent, is by exciting *inflammation* in the sac or parts about it. Inflammation would soon be followed by swelling from effusion of serum or lymph; the artery supplying the sac or leading from it would be thus compressed, and its pulsation checked or diminished according to circumstances. This result obviously may follow, whether compression has been employed or not; and it is more likely to happen when a powerful battery has been used, than one of moderate strength. That it has already occurred, is evident from the details of one of M. Petrequin's cases, in which suppuration of the sac followed the application.

If the foregoing views are correct, a galvanic battery of moderate strength is to be preferred to a more powerful one, as being less likely to occasion inflammation; and the application ought always to be combined with compression upon the artery above and below the sac.

On the whole it appears to me that much can never be expected from galvano-puncture as an agent in the cure of aneurism: it is doubtful if the current of a battery of moderate strength, however long continued, can develope a coagulum sufficiently firm to produce even the effects I have mentioned, and the employment of a powerful battery is not without risk if the aneurismal sac is of considerable size, or springs from a large artery.

[As another mode of forming a coagulum, Mr. Wardrop has suggested the injection into the sac, of dilute acetic acid, by means of Anel's syringe.]

It appears to me (he observes) that the fluid blood contained within an aneurism might be coagulated with safety by injecting into the sac a proper quantity of one of those substances which produce the instantaneous coagulation of blood that has been just removed from a living animal. Of these substances, perhaps there is no one which would be better adapted for this purpose than *acetic acid*, a small quantity of which is known to coagulate a very considerable quantity of blood. Vinegar could be very easily injected into the sac of an aneurism with Anel's syringe, a puncture having been previously made into the sac with a needle; and it might be advisable to arrest the circulation through the diseased artery previously to such an operation, by an adequate compression of the vessel either on the capillary or cardiac side of the tumour. If the blood within an aneurismal sac could be thus coagulated, its curative effects might be reasonably supposed to proceed in the same manner as if the coagulation of the blood had been effected by obstructing the circulation through the vessel by the application of a ligature.

I am not aware that the foregoing suggestion of Mr. Wardrop has been ever carried into effect.

Dublin Medical Press, Nov. 18, 1846, *p.* 321.

[In the following observations Dr. Bellingham replies to the objections urged against the treatment by compression, and gives a summary of his opinions. He says,—]

In the first place, it has been urged as an objection to this method of treatment, that the arteries are few in number to which it is applicable. But what is really the fact? The artery, above all others, in which aneurism is most common (after the aorta) is the popliteal, and next in frequency are the femoral and brachial. Lisfranc has given a table of one hundred and seventy-nine cases of aneurism, exclusive of those of the aorta, collected from various sources, out of which number the popliteal artery was engaged in fifty-nine instances, while the carotid was engaged only seventeen times, the subclavian sixteen, and the external iliac but five times. But even this is probably much below the average, because few cases comparatively of popliteal aneurism have been recorded, (owing to its frequency), unless there happened to have been some peculiarity in the case; whereas most of the operations upon the carotid, subclavian, and iliac arteries have been published. It must be recollected, also, that aneurism of the subclavian, carotid, or iliac arteries near their origin, which do not admit of the application of compression, do not admit either of the employment of the ligature. It surely, therefore, is no argument against this method of treating aneurism that, because the disease occurs in arteries beyond its reach, we should refuse to apply it to vessels which admit of its application, or that the practice should be undervalued or condemned, because it cannot be used in every case.

It has been also urged as an objection to this method of treating aneurism that it is more tedious and more painful than that by the ligature. Undoubtedly the treatment of aneurism by compression is often tedious, but that it is occasionally less so than the ligature, several of the cases already noticed prove, the pulsation having ceased after it had been employed for a few days only; while in the cases in which it proved very tedious, some of the causes previously enumerated may have operated to retard the cure. As to compression being a more painful method than the operation of applying a ligature to a large artery, including the subsequent dressings, until the wound is healed, this might be a question if the chances of recovery were equal in both, or if compression was employed upon the old theory of endeavouring to obliterate the artery at the site of the pressure: but we have already seen that compression not unfrequently actually relieves the severe pain from which the patient suffers in the affected limb; and that when it has been carefully graduated at first, tolerance of the remedy becomes established, and the patient is then able to maintain it for a longer period and with less inconvenience than under other circumstances.

I am far, however, from denying that compression as employed now, is not painful; indeed, some patients may find it so irksome as to refuse to continue it, or to call for the operation, the pain of which they suppose will be only momentary, and of the danger of which they are ignorant. But there is a great difference in this respect in different individuals, sometimes owing to the difference of sensibility to pain in different subjects, sometimes to a greater degree of pressure being required in one case than another. For instance, a moderate amount of pressure will diminish materially the current of blood in the artery in one subject, while a much stronger pressure will be required in another. This sometimes evidently depends upon the condition of the limb, more particularly the degree of development of the muscles, or the amount of superficial fat: a slighter degree of pressure will obviously be necessary when the limb is thin, and the muscles are poorly developed, than when this part is very muscular or much loaded with fat. Again, the condition of the heart and of the arterial system must likewise have some influence; thus, if the patient is plethoric, if the arteries are distended, or if the heart is hypertrophied, a greater degree of pressure necessarily will be required than under opposite circumstances. It is in such cases that venesection, by diminishing the tension of the arteries, and reducing the amount of blood, will generally be found serviceable; a less degree of pressure will be then required, less inconvenience will be experienced by the patient, and the pressure can be maintained for a longer period.

That there is a great difference in the sensibility to pain in different individuals has long been familiar to surgeons, and is frequently witnessed in operations; consequently, some patients will be found who will maintain strong pressure for a long time without a murmur, while others will soon begin to complain, although the degree of pressure may be very moderate.

It is not, however, by contrasting the amount of pain experienced in these two opposite modes of treatment that we are to judge of their comparative merits. Admitting that, on the whole, the actual pain experienced is greater in the treatment by compression, when we contrast its perfect safety, its almost absolute certainty, with the risk and uncertainty which attend the operation, the advantages preponderate greatly in favour of compression. This appears to be the correct view to take of the question; and I am convinced that no medical man who had witnessed the treatment of aneurism by compression, and who likewise had experience of the ligature, would think of employing *in his own person* any other method; but would consider himself fortunate, if he could be relieved of so formidable a disease, by submitting to a greater degree of pain even than compression upon the artery occasions.

It has been objected to this method of treating aneurism that the pulsation is more likely to return than when the ligature has been employed, owing to the artery not being obliterated at the point at which the pressure is made; consequently, that the patient cannot be considered safe from a relapse for a considerable time; while the period which has elapsed is too short to allow us to conclude that the cures which have been effected will be permanent. In reference to these objections, I shall merely observe, that the description, previously given, of the appearances found on a post-mortem examination of subjects who had been submitted to this method of treatment, proves that from the manner in which a cure is brought about, it must be permanent; and, I may add, that in every case in which compression has been successfully used hitherto, the patient has remained well subsequently.

The foregoing are the principal objections which have been urged within the last few years against this method of treating aneurism; but they all admit of being readily answered. There are, however, one or two circumstances to which I may here allude, which probably have had as much influence in retarding its general employment, although they have not been ostensibly put forward as objections. Thus, it is difficult to do away with the prejudices of early education; surgeons have been taught, and have been in the habit of teaching for years, that the ligature is our sole resource in aneurism; besides they have so often witnessed the sudden and complete cessation of pulsation in the tumour on the ligature being tightened, that they cannot bring themselves to believe the disease can be cured in any other way. Again, in the treatment of aneurism by compression, the *éclat* to be gained by the successful performance of a capital operation is wanting; while this method of treatment imposes a far greater amount of trouble on the surgeon than the ligature.

Having now enumerated the advantages which compression possesses over the ligature, and having replied to the objections which have been or might be urged against this method, I wish it to be understood that I do not advocate it as being free from inconvenience, free from trouble, or free from pain; the process by which compression effects the cure of aneurism is necessarily gradual, and requires time to be accomplished, and the surgeon, if he expects to succeed, must make up his mind to exercise a degree of patience which may be seldom called for in other cases; on the part of the patient, likewise, a considerable share of forbearance will be necessary; the former must be prepared to witness his exertions thwarted, and his endeavours fruitless for a long time; while the latter must be content to submit to confinement to bed for perhaps many consecutive weeks, and to the additional inconvenience of wearing a compressing apparatus during the greater part of that time. Although this is taking rather an unfavourable view of this method of treatment, and although in many of the cases which have been detailed, the cure was accomplished within a comparatively short period, yet it would be misleading those who have not seen this method employed, or who are about to try it for the first time, to let them suppose that it has no drawbacks; and that it does not occasionally prove both tedious and painful Compression, however, possesses this advantage over the ligature, that if persevered in, it cannot fail of effecting a cure; the cure may be impeded or protracted owing to a variety of causes, but from the manner in which the aneurismal sac becomes filled up, it is evident that every day will contribute a little, and every hour the pressure is applied something will be gained; and no matter how long the treatment may last, if the patient and surgeon have sufficient perseverance, a permanent cure will ultimately be accomplished, while the employment of pressure does not involve the slightest risk.

Having brought these remarks upon the treatment of aneurism by compression to a close, I shall conclude with a summary of some of the most material points bearing upon this method of treatment:—

1. The arteries to which compression is applicable being far more frequently the subject of aneurism than those to which it is inapplicable, compression is calculated to supersede the ligature in the great majority of cases.

2. The cure of aneurism by compression upon the artery between the aneurismal sac and the heart, according to the rules laid down here, is accomplished by the gradual deposition of the fibrine of the blood in the sac, until both the latter and the artery at the part

are completely filled. The process is in fact exactly similar to that by which nature effects a spontaneous cure of aneurism.

3. Such an amount of pressure as would cause inflammation and adhesion between the opposite sides of the artery at the point compressed is never required.

4. The pressure should not be so great as to interrupt the circulation in the artery at the point compressed; an essential agent in the cure being that a current of blood should pass through the sac.

5. Compression by means of two or more instruments, one of which is alternately relaxed, is much more effectual than by any single instrument, and in many instances the pressure can be maintained by the patient himself.

6. The treatment of aneurism by compression does not involve the slightest risk to the patient, and if persevered in cannot fail of effecting a cure.

7. A cure of aneurism effected by compression, according to the rules laid down here, must necessarily be permanent; and in every case in which a cure has been accomplished, the patients have remained well subsequently.

8. The femoral artery remains pervious after the cure at the point at which the pressure has been applied, and no morbid change of any kind is to be detected in either the artery or vein at the site of the compression.

9. When a cure is effected by compression, the vessel is obliterated only at the seat of the aneurism, and the artery at this part is eventually converted into an impervious ligamentous band.

10. Compression effects the cure of aneurism by more simple and safer means than the ligature, while it is applicable to a number of cases in which the operation is contra-indicated or inadmissible.

11. Compression is not necessarily a more tedious or more painful method of treating aneurism than the ligature, while it is much more certain, more likely to be permanent, and is free from all danger.

12. Compression, according to the rules laid down here, has little analogy with the old method which went by this name, and in fact has no greater resemblance to it than the Hunterian operation had to the operation for aneurism which it superseded.

[Mr. Bulley has invented an instrument for more effectually applying this mode of treatment, which, especially in reference to popliteal aneurism, has occupied so much attention.—*See Medical Times, Nov.* 14, 1847, *p.* 126.]

Dublin Medical Press, Jan. 20, 1847, *p.* 38.

127.—*On a Case of Popliteal Aneurism, in which Compression was unsuccessful.*—By Thomas Turner, Esq , Manchester.—[A woman when using considerable exertion, felt something give way in the left popliteal space. In two or three days she perceived a small tumour, which gradually increased in size, until ten or twelve weeks after, when she was examined, it filled the whole popliteal space, and presented all the characters of aneurism. It was decided to try pressure upon the artery; and this was applied by a screw instrument placed upon the femoral at the junction of its upper and middle thirds, and at the point where it issues from below Poupart's ligament, for an hour each alternately. This was continued for a fortnight, without effect upon the tumour, though with great pain to the patient. Mr. Turner says,]

At the end of the fortnight, she refused to have the pressure continued any longer, consequently the instruments were removed.

From this time the tumour was left alone without anything being applied for the space of a fortnight. On the 25th September Mr. Turner proceeded to the operation of tying the femoral artery. He made the usual incision over the artery, at about the junction of the upper and middle third, at the point where pressure had been applied. The superficial and deep fasciæ and cellular tissue, were condensed into a strong membrane; the inner border of the sartorius muscle was atrophied or partially wasted by the continued pressure. The sheath of the vessel was condensed, and so mixed up with contiguous parts as to be scarcely distinguishable—which state of textures caused no little difficulty in getting at the artery. The coats of the artery and vein were much condensed, and the artery smaller than usual. A ligature was now applied to the artery, and the external wound closed up with a few strips of adhesive plaster; and a pad or piece of lint (wet) and a flannel bandage applied from the foot upwards, after which she was removed to bed, and was ordered an anodyne draught.

On the 9th day, when the wound was dressed for the first time, the leg was quite warm, and no bruit could be detected in the tumour. In a few weeks she was quite cured.

The anticipation expressed by Professor Syme, that pressure would increase the difficulty of a subsequent operation, was verified in this instance, in the condensed state of the textures surrounding the artery at the part where it was tied.

Monthly Journal of Medical Science, March 1847, *p.* 707.

128.—*On the Treatment of Popliteal Aneurism.*—By Professor Syme, Edinburgh.—[After relating a case of popliteal aneurism successfully treated by ligature, Mr. Syme proceeds to make some observations upon this mode of treatment as compared with that by compression. He says:]

In the case now related, I tied the femoral artery for the *sixteenth* time, without experiencing any bad effects from the operation. Much blame has been imputed to me, both publicly and privately, for adhering to this mode of treatment, in disregard of the pressure system, which has lately been revived, and I am told that whatever may have been my own good fortune in escaping unfavourable results, it is not justifiable for me, as a teacher of clinical surgery, to pursue a practice which has proved in general very dangerous, while there is another that may be adopted with perfect safety. To remonstrances on such grounds, respectful attention is due; and

I have therefore deemed it my duty to make a careful inquiry into the present state of the question, illustrated as it has been, by the accumulated facts of several years.

With regard to the ligature, it appears that this operation admits of being performed so as to be nearly, if not entirely free from danger. I have undertaken it in every case that presented itself, although the circumstances were often very unpromising, and even when erysipelas as well as hospital sore infested the clinical wards of the Royal Infirmary. Mr. Busk, surgeon of the Dreadnought Hospital Ship, also, as will be seen from the subjoined letter, has tied the artery nine times without any bad effect; so that the operation has thus been performed in twenty-five cases with no unpleasant consequence. This success cannot be ascribed to mere good fortune, and certainly has not depended upon any peculiarity in the process, or its performance, which may not be generally adopted.

There is now, I believe, no difference of opinion as to the proper principles of the operation. They are—1st. To dissect with the knife and forceps, instead of tearing or scratching with a blunt instrument, to expose the artery. 2nd. To denude no more of the vessel than what is requisite for passing the needle. 3rd. To use for ligature the smallest silk thread possessing sufficient strength, and tying it as tightly as possible. 4th. To treat the wound so as to favour union by the first intention. As to the performance of the operation, I believe that there is no arterial trunk in the body which requires for its ligature so little anatomical skill, or manual dexterity, as the femoral artery. The angle formed by the sartorius and adductor longus affords a sure guide to the vessel; and in the event of any error as to the position of the external incision, the fibres of these muscles by their different directions, at once show the operator on which side he has exceeded. But while the mere detection of the artery is abundantly easy, it must be admitted that the subsequent part of the operation is beset with extreme danger from any want of caution or nicety, since, if the vessel be roughly detached from its connexions, hemorrhage will probably result; and if the vein be wounded, the patient will almost certainly perish from inflammation of the vessel, or mortification of the limb. Care is always required, and must be employed in a degree proportioned to the intimacy withwhich the artery is connected to the neighbouring parts. I have completed the operation in less than a minute, and on other occasions have found nearly half an hour requisite for the purpose. If all operators had paid as little regard to the time occupied, I believe that the unfavourable results on record would not have been so numerous as they are. The operation, therefore, I believe, being performed upon proper principles, and with sufficient care, may be regarded as perfectly safe.

If this position be well founded, the grand argument in favour of compressing, instead of tying the artery, has no room to stand, since the danger alleged to attend ligature of the vessel is what gives importance to a mode of treatment claiming to be altogether free from risk. But I some years ago expressed the fear that compression, when tried in a variety of cases, would not be found quite so safe as its advocates anticipated. "Ugly consequences also occasionally occur in the shape of ulcerations and sloughs, or swelling of the limb; and there can be little doubt that if the method in question were generally adopted, so as to bring under its influence the variety of constitutions which are prone to resent such treatment, there would not be wanting even fatal results to strengthen the objections that might be urged against its adoption." It may now be inquired how far this anticipation has been realized.

The following case, reported by Mr. Bellingham, affords an example of the bad effects that may proceed directly from compression, and it is hardly necessary to remark that the "acupuncture" employed in its progress nowise affected the result:—

Patient, a butcher, aged 38, unhealthy, labouring under anasarca, anæmia, and enlargement of the heart, with signs of valvular disease, admitted into St. Vincent's Hospital, under Mr. Bellingham, February 10th, 1846, with popliteal aneurism upon the left side. Patient is accustomed to carry heavy loads, but never received any injury; tumour noticed about eight months previously, soon after which he entered another hospital; compression was used, but he left it about the middle of last December. The aneurism is about the size of a hen's egg; it diminishes, but does not disappear on compressing the artery in the groin; the limb is œdematous.

Compression commenced soon after the patient's admission, pressure made by a weight in the groin, and by a clamp upon the artery at the junction of the middle with the lower third of the thigh. After the compression had been continued for some time, as the pulsation continued to be strong, it was resolved to give a trial to galvanism combined with compression. By applying pressure upon the artery above and below the aneurism, so as to retain the contents of the sac until acted on by the galvanic current, it was expected that one of the principal causes of the failure of this proceeding would be avoided; the case likewise seemed to be a favourable one in this respect, that the blood contained a very large amount of serum in proportion to the fibrine.

April 21st. A clamp was applied upon the artery above the aneurismal sac, and another below it; two acupuncture needles (insulated except at their points and hafts) were then introduced from opposite sides into the aneurismal sac, and brought into connection with a Smee's battery, by Dr. Apjohn, Professor of Chemistry to the Royal College of Surgeons, who kindly afforded his services, and the galvanic current was maintained by him for about fifteen minutes at intervals. It was intended to repeat the application after a short interval, and in the meantime the patient continued the compression. In order to hasten the cure (as he thought) he had kept up very strong pressure upon the artery in the thigh for many hours, when seven days after the employment of the galvano-puncture, he was seized with a shivering, erysipelas

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(which was prevalent at the time) attacked the part of the thigh upon which the pad of the instrument rested, it spread upwards and downwards, and the patient died on the fourth of May, six days afterwards.

[Mr. Syme then quotes a case communicated to him by George Busk, Esq., in which fatal gangrene was caused by compression. Mr. Busk observes:]

I am very glad to furnish you with the particulars of the case of popliteal aneurism treated by pressure upon the artery, for Mr. Syme's information. Though little can be said on the subject from a single case, and that in some respects exceptionable, I quite agree with him in thinking that the new mode of treating aneurism in the ham, offers but little or no advantage over the Hunterian operation, when skilfully performed. It is more tedious, and, on the whole, undoubtedly more painful, and, as the present case shows, is not free from one at least of the same risks as attend the operation of tying the artery, viz., gangrene of the limb, from the stoppage of the circulation, gradually as it appeared in this case to have been effected.

[Mr. Syme continues:]

Independently of the danger that might proceed directly from compression, I regarded the risk of failure as a very serious objection to this method, not merely, with reference to its rendering profitless the patient's suffering and confinement, but still more on account of the difficulty that might afterwards be experienced in performing the operation, from thickening and condensation of textures caused by the pressure. Many instances of failure have come to my knowledge, and I am also credibly informed that the apprehension just expressed has been fully verified by experience. But as the operators have not thought proper to publish their cases, they can at present be only referred to in a general way, as confirming this opinion, which, indeed, requires no further support than what is afforded by Mr. Cusack's case, already related, as in it there is evidence of dissection, that "thickening of the cellular tissue surrounding the vessel" may result from even a comparatively moderate degree of pressure. On the whole, there is reason to believe that the ligature, when properly performed, is safer than compression; but I need not insist upon this reason of preference, and may next inquire into their relative superiority, with reference to the respective degree of facility and suffering that attends their employment.

The ligature is usually accomplished in two or three minutes, without any trouble to the operator, and hardly any pain to the patient, who, after the skin is divided, seldom expresses more than a slight feeling of uneasiness; and even when difficulty is experienced in detaching the vessel, the operation, though protracted in duration, is attended with little additional pain. If the sheath of the vessel be opened on the outer or fibular side, by slightly withdrawing the edge of the sartorious muscle, there is little risk of cutting any arterial branch, and the hæmorrhage seldom exceeds one or two teaspoonfuls. The wound generally unites by the first intention, and when it does not do so, heals by granulation without pain or inconvenience. The patient during his confinement lies in perfect tranquility, sleeping soundly, taking the food given to him with appetite, and able to be amused by reading, writing, or conversation.

Pressure on the trunk of an artery sufficient to arrest or impede the flow of blood through it, notwithstanding all that has been done by mechanical contrivance to lessen the inconvenience of its effects, must always be more or less distressing to the patient, by the local uneasy feelings and general commotion of the system which it occasions. Few, indeed, would submit to it, except through their dread of an operation represented to them with alarming features; and not a few have insisted upon encountering the knife, notwithstanding all their apprehensions, rather than prolong their martyrdom under the tourniquet. In twenty-three cases of aneurism, reported by Mr. Bellingham, from the practice of seventeen surgeons, as successfully treated by pressure, I find that the average duration, not of the treatment, but of the actual compression, excluding the intervals of its discontinuance, amounted to thirty-eight days. Thirty-eight days and nights of misery, to escape a few minutes of trivial uneasiness!

The question between ligature and compression seems very much the same as that between passing a catheter and puncturing the bladder for retention of urine. If the surgeon can with safety relieve his patient by means of the catheter, he should certainly do it. But if, instead of drawing off the water, he can in this way only lacerate the urethra, and make false passages through it, his duty is plainly to thrust a trocar into the bladder. Now, as it is not likely that all the gentlemen I have from year to year the honour of addressing in my lectures, will be able, throughout the whole course of their practice, to avoid puncturing the bladder, it may be thought improper for me, during seventeen years' discharge of hospital duty, to have never resorted to this operation—even in a single instance. But while a clinical teacher has to regard the interests of his pupils, as well as those of his patients, the former must always be held secondary to the latter. If it is in my power to afford relief by the catheter, I am bound to do so; and, on the same principle, so long as it is my sincere persuasion that ligature of the artery is preferable to pressure, for the cure of popliteal aneurism, I shall deem it my duty to pursue this method, though it may not, perhaps, be the best suited for the lowest capacity of surgical skill. Puncture of the bladder and compression of the femoral artery may be useful expedients when circumstances forbid the adoption of better means; and I am far from desiring that either the one or the other should be excluded from the practice of surgery; but it would surely be unreasonable to insist upon these clumsy, painful, and I will add dangerous, methods of treatment being employed upon all occasions, instead of those which, when properly executed, are easy, gentle, and safe. Puncturing the bladder is certainly better than leaving the patient to his fate, or aggravating it by mischievous poking with catheters; and compression of the artery is undoubtedly better than its rude or careless ligature. Let every man act according to his powers; but let no one who feels it necessary to choose inferior means, throw blame upon those who are able to practise a higher exercise of their art.

Monthly Journal of Medical Science, Feb. 1847, *p.* 561.

129.—*Axillary Aneurism: Amputation at the Shoulder Joint.*—By Professor Syme.—[This patient was a stout man, fifty years of age, with the aspect of disease of the heart: the pulse was intermittent, and the heart's action perceptible over a greater extent than natural. The aneurism arose after a sudden and violent instinctive movement of the left arm upwards and backwards. It was so large as to fill the axilla, but quite circumscribed. The patient having come to Edinburgh for operation, Professor Syme says,—]

On the day of his arrival, I remarked that the pulse throughout the affected arm had become very weak; and on the following day I could not detect it either at the wrist or in the tumour, which, during the few days that had elapsed since I first saw it, had acquired a great increase of size. The prospect of spontaneous coagulation derived from this change, would have made me delay the operation, even if all other circumstances had been favourable to its performance. But the pulse became very quick; the arm swelled to a large size from œdematous effusion; and excessive pain was felt throughout the limb. On the following day, another unpleasant symptom was presented by a diffused blush over the forearm, of that peculiar hue which is wont to precede mortification, resulting from the inflammation of parts imperfectly supplied with blood. Small doses of antimonial wine, with the solution of muriate of morphia, were administered internally, to allay the general excitement; and soothing lotions, containing opium, with acetate of lead, were applied to the seat of pain. On the morning of the 13th, the arm, from the elbow downwards, suddenly became cold and devoid of sensation. The redness, leaving this part, ascended towards the shoulder, the pulse could hardly be counted, and there was every sign of speedy sinking under the violence of constitutional reaction.

It was, therefore, with no less surprise than satisfaction that, during several succeeding days, this apparently hopeless condition was observed to assume gradually a more promising character. The arm which, from the time it became cold, had been simply wrapped in flannel, regained its proper temperature; the redness of the skin disappeared; the pain in a great measure subsided; and the patient resumed the state of tranquillity that had existed previously. The swelling of the arm also, which had attained an enormous extent, especially towards the axilla and shoulder, which it raised almost to the patient's ear, and stretched strangely outwards from his side, sustained a marked diminution.

In consideration of these encouraging changes, the hope of a spontaneous cure was again entertained, and the pulsation, which could be perceived only by the ear, was ascertained to be confined to an extent so small, that there could be no doubt as to coagulation having taken place throughout a large portion of the cavity. But on the back part of the shoulder, where the skin had been extremely distended, when the swelling was at its height, and had not since either regained its natural consistence, or lost the purple colour then assumed, there now began to be presented the appearance of a slough. It was hoped that this might be the effect of pressure limited to the integuments, and separation of the dead part was anxiously watched, with a view to ascertain whether it was confined to the surface, or extended to the cavity. In the course of a short time, the worst fears were verified by a gradual enlargement of the aperture, exposing to view a mass of coagulum and sloughy muscular substance, through which arterial blood began to ooze, and stain the patient's shirt.

Upon the 16th of August, I requested my colleague in the hospital, Dr. Duncan, together with Dr Cornwall, who had taken the ordinary management of the case, to consider what could be done to prevent the obviously impending hæmorrhage, which threatened to prove speedily and almost instantly fatal. Ligature of the artery was quite out of the question, as the arm, though its temperature was restored, had not regained either sensation or voluntary motion, and, independently of all other objections to this operation under existing circumstances, would certainly have been deprived by it of the scanty vital power still remaining. I therefore proposed amputation at the shoulder joint, which met with approval, and, as there was no objection on the part of the patient, proceeded without delay to this formidable undertaking.

The patient having been brought to the edge of his bed, I made an incision from the acromion downwards and backwards through the sloughy aperture, and, from the same point, another downwards and forwards, so as to join their terminations at the lower part of the axilla, and form two nearly equal flaps, which, being held aside, allowed the disarticulation to be readily completed. As pressure could not be effected upon the vessel above the clavicle, in consequence of its elevation by the tumour, a fearful gush of blood issued from the cavity of the aneurism when laid open, but was instantly arrested by Dr. Duncan, who placed his thumb upon the part from which he felt the jet proceed, and retained it there, until, by the application of eight or ten ligatures, I prevented hæmorrhage from the smaller vessels. Upon examining the state of the axillary artery, we found no distinct orifice, but merely a funnel-shaped expansion where it communicated with the aneurism. I therefore made an incision from the upper extremity of the wound quite to the clavicle, in the direction of the vessel, cut through the tendon of the pectoralis minor, and, by careful dissection of the condensed textures in which it lay imbedded, exposed a sufficient portion of the artery for safely applying a ligature. This having been done, the edges of the wound were brought together, and retained by stitches, with the assistance of compresses and a bandage.

The patient bore the operation well, made no particular complaint after it, and steadily advanced towards recovery, although the separation of sloughs was not completed until the end of a fortnight. But while this process was gradually accomplished, the cavity rapidly contracted, so that when the whole of the dead parts were cast off, it was nearly closed. The ligature came away on the 15th of September, and the patient then returned to Glasgow, where he was soon afterwards able to resume the duties of a public situation, which he holds in that city.

Monthly Journal of Medical Science, Dec. 1846, *p.* 401.

130.—*On Galvano-puncture in Aneurism.*—In the Annales de Thérapeutique of last month the history of a case of carotid aneurism is given, which terminated fatally under this treatment. Suppuration of the sac, with inflammation of the surrounding parts, followed the application of the galvanism, and the patient died from suffocation while the external coverings of the aneurism were attenuated, and apparently in the act of giving way. On examination after death, coagulation of the blood contained in the sac did not appear to have been promoted by the effect of the galvanism.

It appears that the galvanic current, although it may have the effect of causing coagulation of the blood, is liable to produce inflammation, not only of the integuments, but also of the sac itself. Considerable difficulty is experienced at the same time in withdrawing the needles, owing to their points becoming oxidated from the effects of the galvanic action; so that it is probable the adoption of this method of treatment of external aneurism will be found unsuccessful.

Monthly Journal of Med. Science, March 1847, *p.* 696.

131.—*Case of Aneurism by Anastomosis in the Anterior Nares.*—By Samuel Wilmot, Esq., M.D., President of the Royal College of Surgeons in Ireland, &c, &c.—[The subject of this remarkable case was a woman aged thirty, who became a patient at Steevens' Hospital, Dublin. Dr. Wilmot says,]

About four years and a half ago she observed a small tumour, not larger than a pea, situated on the inside of the left ala nasi. The formation of this tumour was preceded and accompanied by a good deal of pain, which was not confined to that spot, but occupied the entire left side of the nose; she also experienced a sense of fulness and tension about that side of the head, and in a few months the tumour increased so much as to attract the notice of her friends. She was now sent to me from the country by a friend, who conceived the tumour to be a polypus. Upon examination I found the tumour, which was about the size of a small olive, attached to the inner surface of the ala of the left nostril. It was of a dark blue colour, soft, smooth, and equal on its surface, and upon pressing it an obscure pulsation could be felt in it. The coronary artery of the lip and the lateralis nasi pulsated strongly, and appeared to feed the tumour.

[She went home for her confinement, and at that time the tumour increased considerably. In about four months she returned, and Dr. Wilmot thus continues his account of the case;]

In consultation with Mr. Cusack and Mr. Colles, it was agreed to try the effect of nitrate of silver applied to the interior of the tumour: to accomplish this the tumour was punctured with a cataract needle, and through the punctures a small probe, coated with the nitrate of silver, was introduced. A rapid flow of blood followed each operation, but was soon stopped by pressure. The caustic was applied in this manner three or four times, and during the intervals astringent lotions and pressure were employed. This plan brought about some reduction in the size of the tumour, but it was not of long duration; in a very short time it acquired its former size, or perhaps became rather larger; the headach, also, became very great with intense throbbing, not only in the tumour but round the entire left side of the head and face. In this unrelieved state she was again obliged to leave the hospital to see one of her children who was dangerously ill; but when her child had recovered she returned, after an absence of nearly half a year. The tumour was now observed to have undergone a remarkable change in size and shape. It was much larger, and had altered its oval shape to a round form. It now bore some resemblance to a large hæmorrhoid; it filled the anterior cavity of the left nostril, and extended a little beyond its margin; its free surface lay against the septum, and completely blocked up the passage. The tumour preserved the same bluish colour and smoothness on its surface, and its pulsation could now be seen as well as felt. All the circumjacent arteries were enlarged, the lateralis nasi was dilated to the size of a crow-quill, the coronary artery of the same side was also greatly enlarged, and pressure on either of these arteries commanded the pulsation in the tumour. She complained at this time of want of sleep from the pain and throbbing in the head; she also stated that vision had been rather dull in the left eye for some short time back.

Finding that all the symptoms were rapidly increasing, and that the several plans of treatment adopted were unsuccessful, we resolved on perforating the tumour with the actual cautery. The circumstance which led to this plan of treatment, was the successful application of the instrument in the hospital to hæmorrhoidal tumours by Mr. Cusack, as related in the last Number of this Journal. To my son, the resident surgeon, who took an interest in the case, and paid close attention to it, the carrying out of this plan of treatment was confided, and it was perfectly successful. The operation consisted in perforating the tumour in two distinct places with a nail-shaped cautery iron. This operation was repeated six times, at intervals of 14 days between each. After every application the tumour swelled, became painful, and in about three days pus was observed to ooze through the openings. By following up this plan the tumour gradually diminished, and the enlarged arteries lessened. At the expiration of three months she was discharged from hospital perfectly well. There was then no trace of the tumour, the lateralis nasi artery could not be felt, and the other arteries which had been enlarged, were restored to their natural size.

Since the hæmorrhage which occurred when the patient was a girl, before any tumour appeared, no bleeding took place from the nose, through the entire progress of the case, though such an occurrence might naturally have been expected considering the nature of the tumour, and the excited condition of the arteries connected with it.

The actual cautery has been, of late years, a most useful instrument in the hands of judicious and careful surgeons. Indeed, I think, that every case successful through the agency of this instrument, should be made known, in order that the public may become more familiar with its name, and acquainted with its utility, at the same time that some of the formidable ideas connected with it might be removed. It is very natural that the idea of a red-hot iron about to be applied to a living, perhaps to a highly sensitive part, should excite in the mind of a patient great horror, nay, even cause a decided opposition to its application; but the practitioner may remove those fears; he can declare, with perfect truth, that, in reality, this mode of destroying diseased parts is safer and milder in its effect than the employment of strong caustics. The pain produced by the actual cautery is of much shorter duration than that caused by the use of this application, and what cannot be said of any caustic, except, perhaps. of the chloride of zinc, its effects are limited, and do not extend beyond the part to which it is applied.

Dublin Quarterly Journal, Feb, 1847, *p.* 31.

132.—*On a New Mode of Applying Ligatures to Tumours.*—By Professor Fergusson, London.—The surgeon has frequently to apply ligatures to tumours; in one instance, with the premeditated view of avoiding serious hæmorrhage, and causing strangulation at the same time; in another, on account of profuse bleeding that may have followed a partial use of the knife, or from uncertainty as to the magnitude of vessels in the pedicle of a growth about to be removed. Some practitioners give preference to the ligature, over every other mode of removing or destroying internal vascular piles, nævi, aneurisms by anastomosis, and certain forms of morbid growths, and the mode of deligation is usually a matter of taste, or preconceived opinion on the part of the operator. If the base or neck of the part about to be destroyed, be narrow, some are content with a single noose of ligature around it, while others prefer two or more, as may seem requisite; but in examples where the growth is flat and broad, a noose cannot be fixed without some contrivance to prevent it from slipping. In whatever way a ligature is applied, the principal object is, that it may be drawn so tightly upon the parts included in the noose, as to obstruct all circulation, and thereby cause the diseased mass to slough away;—if this be not attained in due time, the threads must be tightened or renewed. When there is great thickness of parts to be compressed. Graefe and others have used a kind of tourniquet, whereby, as the threads have slackened, the pressure has been re-applied, until the desired object has been effected. Instead of silken or hempen cord for ligature, some have preferred wire of various metals, but the generality of surgeons have chosen the more flexible materials above-named. I have myself made use of almost every kind of ligature, and tried nearly every plan that has been recommended, and entertain the opinion that no single wire, thread, or method, is applicable in all instances. Each case requires some modification peculiar to itself, and it is for the surgeon to determine which is most applicable.

Ligatures are most generally made use of in internal piles, vascular nævi, and aneurisms by anastomosis; and among those who have preferred this mode of treating such diseases, the following methods have been chiefly selected:—A needle, with a double thread, has been pushed across the centre of the diseased mass, and the latter has been strangulated in two portions, by drawing a noose on each end of the thread after it has been divided near the eye of the needle. This mode of treating nævi was specially brought under the notice of the Royal Medico-Chirurgical Society of London, by Mr. Lawrence, in 1837, and his paper on the subject was published in the 13th volume of the Transactions. Through the same means, a paper, by Mr. Anthony White, was made public, wherein he showed that he had, for many years, been in the habit of destroying the larger forms of nævi in this way. The plan is evidently superior to that with a single noose, there being no chance of the threads slipping completely off, and the two small nooses fulfilling the intentions of the surgeon with greater certainty and rapidity than the single large one. But the threads, even in this way, are liable to slip off the sides of a tumour, and portions may thus be left which it would be desirable to remove. Sir Benjamin Brodie, to obviate this defect, passed a couple of needles at right angles to each other, across a vascular tumour on the forehead, and bound a strong ligature round the base of the tumour, below the needles. A case thus treated was detailed by Sir Benjamin in the 15th volume of the Transactions of the Medical and Chirurgical Society of London. Dr. Charles Barton, Dr. John C. Warren, and others, have followed the plan, and there can be no doubt that, in certain cases, it is preferable to that above referred to. Dr. Warren and others have been in the habit of using two needles, each armed with a double ligature, and crossing the tumour at right angles. "The base of the tumour is to be tied by quarters, so as to includethe whole in the eight threads." This method is that which has been long followed by Mr. Liston, I believe; and, in conjunction with his plan of preserving portions of the skin covering the circumference of the tumour, by a partial dissection before the application of the ligatures, is probably the best generally known to the profession. Entertaining this view myself, I have very frequently had recourse to it. But the process is not altogether devoid of difficulty, if not of objection, as any one trying it will speedily find. Mr. Liston thus describes his operation, as regards the ligature:—" One needle, that across the morbid mass, was in the first instance introduced without a ligature; the tumour was raised by means of it, and the second needle passed underneath the first, carrying a strong thread; the loop of this was laid hold of with a hook, and the needle withdrawn upon the ligature. The first needle was then armed also, and the double ligature brought through with it." " The ligatures are drawn on each side, or the ends are secured all round, the one to that next it, whilst the ligatures are tightly held; by pulling and securing the last very tightly, all the knots are drawn together under the tumour; in fact, the four ligatures are knotted in such a manner as to make one, and, by drawing the last two ends tightly, the strangulation is rendered complete. The reef knot must be used for this purpose, and even a third knot should be made to prevent the ligatures slipping during the firm and strong pull upon the last two ends." Dr. Warren thus describes the " cross ligature," as he calls it:—" A long, curved needle, carrying a double ligature of two strong silk threads, was entered at the top of the tumour, above the little process; and the tumour being pinched up and drawn outwards with the thumb and forefinger, with some little difficulty the needle was brought out near the clavicle. Another needle and ligature were passed across the neck, at right angles with the first. Then I took a thread of the first and second ligature, and tied them so as to include a quarter of the tumour, the opposite ends of these ligatures being held by an assistant, to prevent drawing them out. The first ligature was made without difficulty. When I came to tie the others, the unevenness of the neck caused them to slip on the tumour. To prevent this, I seized the tumour with a double curve-pointed forceps, and drawing it outwards, confided it to an assistant. The remaining quarters were then tied as tightly as possible. Finding, however, that the small process eluded the thread, before removing the forceps, a circular ligature was passed under the others, with a view to include the process." According to the description given by Mr. Liston, and also to imitate the very pretty diagram which he has given, there can be no compression of the tumour until the last of the four knots is tied, and even then, as I have often experienced, the slipping of one or more of the knots may possibly thwart the surgeon's designs, until he has cast an additional noose or two to prevent further slipping. It frequently happens, too, when the three first knots are sufficiently firm, that when the final force is put on, these knots, instead of lying (midway perhaps) between the apertures where the needles have passed, are drawn against the surface of the tumour at one or other of the apertures, and if they be too large to pass readily into them, the strangulation will be incomplete, owing to the slackness of some of the loops—the slackness being both inside and out, as may be observed in the latter place by the looseness of the thread.

If the proper threads be selected, and tied at opposite corners, the objections last alluded to will be obviated, and in this way, also, two quarters of the tumour can be completely strangulated independent of the other threads. When these last are tied, the parts are wholly included. In this way, however, as well as in the others, there are eight ends of thread to deal with, and the knots first cast may slip, and so require further attention.

For some time past I have used a modification of these plans of Warren and Liston, which I consider an improvement, as it does away with the objections above alluded to. Supposing the tumour to be operated upon situated on the forehead, a curved needle, with the eye close upon its point, carrying a double ligature. and set in a handle, should be pushed across the part to be included, and withdrawn as soon as the thread is seized; the ligature should be cut in two, the end of the upper one should be passed through the eye of the needle, and carried through the centre of the tumour from above downwards, and then disentangled from the needle while the latter is still in its place; the corresponding end of the lower thread should now be passed through the eye of the needle, which should next be withdrawn, whereby the thread will be carried upwards, and then it is only requisite to draw a couple of knots to complete the strangulation.

The needle must be passed in such a way as to permit most, if not all, of the tumour to be included. If any little vascular spot be left after the ligatures are tied, there is a chance that it will increase, and require another operation; and if the deep part of the tumour has been omitted, there may be subsequent enlargement here too. If there be much sound skin over the disease, it will be best to dissect it off, so as to preserve flaps of it, and when this does not seem advisable, it may in some cases, be well to divide the skin where the threads are to be drawn close upon the tumour. The bleeding from these incisions, as also from the tracks of the needles, will cease as soon as the strangulation is effected. In the course of a day or two the included mass will become a black slough, which will separate about the sixth, eighth, or tenth day after the operation. A small sore will then be all that remains, and in a few days more the surface will heal over, when, if the tumour has been properly surrounded, the cure will be complete.

The written or verbal description of the manœuvres above detailed, is more difficult to understand than an ocular demonstration, and even with the diagram, the complication appears greater than when the threads are applied on a piece of cloth or on the disease. To any one familiar with the methods of Messrs. Warren and Liston, the comparative simplicity and advantages of that which I have just described must, on trial, at once appear; for, instead of having eight ends to fasten, there are only four, and in lieu of four knots there are only two required, each of which may, with certainty, be drawn tight at the first attempt without fear of slipping, as often happens in the method followed by the surgeons just named. In addition, from the equal pressure kept up at all points, outside and in, the strangulation is more perfect.

In the Lancet for 1845, Mr. Christopher describes "a new method of applying ligatures to nævi," but in so far as I can perceive, it has little resemblance to that above mentioned, though, I doubt not, equally efficacious as regards strangulation.

I have looked over many authors on the subjects of nævi, piles, &c., and not found any notice of such a mode of applying ligatures as that above detailed; but whether it be original or not, I have thought it worthy of this publicity. I am free to admit, however, that it is a very small affair in connection even with minor surgery, though I consider it sufficiently important to occupy a prominent place in the long list of methods of treating nævi;—whilst for removing certain forms of piles, for strangulating portions of bronchocele and other tumours, when the surgeon is unwilling to use the knife, I believe it better than any with which I am acquainted.

Monthly Journal of Medical Science, Feb, 1847, *p.* 578.

133.—*Ligature of the Posterior Tibial Artery.*—By John Charles Hall, M.D., M.R.C.S., East Retford.—[Dr. John C. Hall records a case of wound of this important artery. It was treated according to the principles so clearly and forcibly set forth by Mr. Guthrie in his valuable work on Wounds of Arteries.]

With regard to his plan of securing the posterior tibial artery in the upper part of its course by an incision through the deep muscles of the calf, I can only say, that having once tried it, and recorded the successful result in this journal, I am as perfectly satisfied of its advantages over the other operation, the mode of performing which, by bending the leg, turning up the edge of the gastrocnemius, placing a director under the soleus, and scraping it away from the bone, &c, &c., is detailed and recommended in some works on surgery, but which appears to me to be an operation so difficult, so dangerous—I had nearly said so almost impracticable—on the living body, although not attended with much difficulty on the dead, that I am at a loss to conceive why it should not at once be abandoned, and the student taught to practise only the far more easy means of securing the artery by a simple division of the muscles of the leg. Added to this, it is often difficult, if not impossible, to decide, when the instrument by which the wound has been made has passed from side to side, whether the posterior tibial or the peroneal artery has been wounded—a matter of perfect indifference in the operation performed by Mr. Guthrie; not so, however, with the one to which we have above alluded.

John Parkinson, æt. 36, was in the month of December last chopping some wood previously to sawing it, for Earl Spencer. The hatchet slipped, and inflicted a very severe wound, about three inches in length, at the lower and inner side of the right leg, a little above the ankle.

The poor fellow had lost a considerable quantity of blood before I saw him; and on placing him in a chair in a warm room, in order to examine the injury, on removing a bandage that was tied tightly round the leg, it again bled freely. The instrument had passed from above sideways, and the artery had been wounded somewhat to the outside of the line of incision. Enlarging the wound with a scalpel, on sponging away the blood I found the posterior tibial artery had been nearly divided about one inch above its division into the internal and external plantar arteries. The posterior tibial nerve was also a good deal injured. My brother kindly held the edges of the wound open for me, and after some little difficulty (for the operation was performed by candle-light) a double ligature was carried under the artery, which was tied above and below the wound which had been made in it, and the vessel divided between them. The wound in the integuments was drawn together by two or three points of suture, the limb supported by a bandage, and the man sent to bed. No febrile disturbance followed the operation. The lower ligature came away on the tenth day after the injury; the upper one on the fourteenth. The wound is now cicatrized, and the poor fellow will soon be enabled to follow his usual employment as a sawyer.

Medical Gazette, Jan. 22, 1847, *p.* 139.

134.—*Mode of Arresting Bleeding from Leech Bites.*—By Dr. A. Marshall, Belfast. --- [Dr. Marshall, of Belfast, recommends a simple method of stopping bleeding from leech bites, which, he says, is free from pain, certain, and followed by no bad consequence. It is, after wiping the wound with a bit of lint, to seize the integuments round it between the thumb and finger, and to keep up moderate pressure. If the child is restless, and the part slips, it is to be seized again and again, until the end is obtained.]

Provincial Medical and Surgical Journal, Dec. 16, 1846, *p.* 604.

135.—*Observations on a Case of Spontaneous Gangrene of the Lower Extremities.*—By H. W. Fuller, Esq., M.B., &c., St George's Hospital.—Dr. Fuller related the particulars of a case of spontaneous gangrene, which fell under his observation at St. George's Hospital about the middle of last year. The patient, a thin, but tolerably healthy woman, 37 years of age, was suddenly seized, on the 8th of June, with most acute pain in the right foot, which shortly afterwards extended up the leg. She was immediately subjected to medical treatment, but without relief; and when admitted into the hospital three days afterwards, her right leg was so exquisitely tender, that the slightest touch caused intolerable pain. Her extremities, however, were neither discoloured nor œdematous. With the exception of albuminous urine, there was no evidence of constitutional disturbance, or of any real mischief at the seat of pain. Various means were adopted to relieve the pain and obtain rest, but without effect, her sufferings being most acute. On the 18th inst., ten days after the commencement of her illness, the superficial veins on the right foot and ankle became rather more distinctly marked than usual, and the foot perhaps rather cooler than the corresponding extremity; and on the 22nd the coldness became so manifest, and the foot at the same time so decidedly mottled in appearance, that there could no longer be any doubt on the matter. The gangrene which had thus commenced continued to spread till it had involved the whole of the right extremity. On the 30th, the left foot began to mortify, and ultimately the left leg and part of the corresponding thigh. The affected limbs presented excellent examples of gangrene sicca. For the first five or six days, the parts affected became gradually darker and darker, until they assumed a perfectly black appearance; this blackness was then replaced by a brilliant scarlet colour, which in its turn yielded, shortly before death, to an inky-black hue. The parts throughout remained icy cold. The treatment consisted of the exhibition of iodide of potassium, opium, and stimulants, internally, while the limbs were wrapped up in carded wool; but everything failed to afford relief, and she sunk on the 15th of July.

The following is the result of the post-mortem examination :—Every organ in the body was perfectly healthy with the exception of the kidneys, which presented a well-marked specimen of granular degeneration. The heart and large vessels were most minutely examined, and neither in the heart itself, nor in the aorta, nor in the vessels of the affected limbs, was there the slightest trace of inflammatory action, or of osseous or atheromatous deposit. Indeed, the blood-vessels, both arteries and veins, presented a remarkably healthy appearance. But the lower part of the abdominal aorta, the arteries given off below the superior mesenteric, and the arteries of the affected limbs, together with their corresponding veins, were completely blocked up by firm fibrinous coagula, which were in great measure discoloured, and slightly adherent to the internal coat of these vessels. Some of these coagula, on being cut into, were found soft and cream-like in their centre. In the right auricle and left ventricle of the heart, in addition to the ordinary coagula commonly met with after death, were two coagula, precisely similar to those above described.

The author observes, that from first to last this case presented the ordinary features of senile gangrene; yet none of the usually alleged causes of that disease were present. The heart and blood-vessels were perfectly healthy; she had lived regularly, was in the prime of life, in comfortable circumstances, and in tolerably good health; and as during life there had been no symptom of arteritis, so after death was there no evidence of such inflammatory action.

Having thus shown how unavailing are the commonly alleged causes to explain the formation of coagula in cases like the one under consideration, he proceeded to explain his own views as to the cause of obliteration of the blood-vessels. Admitting that it might sometimes result from arteritis, and sometimes from excessive osseous deposit, and consequent interruption to the arterial circulation, he stated it as his belief, that coagulation is not unfrequently due to a peculiar condition of the blood itself. He illustrated this point, by reference to facts which have lately been brought under the notice of the profession, and expressed his conviction that the partial ossification of the vessels occasionally met with accompanying mortification, should in most cases be regarded as a simple coincidence, and by no means as the cause of the formation of coagula.

[Dr. Burrows remarked that cases in many respects similar to this, were met with in unmarried females suffering from amenorrhœa accompanied by anæmia. He said,]

In these cases there was a kind of phlegmasia dolens resulting from spontaneous coagulation of the blood in the extremities; the disease first affecting one leg, and then changing to the other, in the manner phlegmasia dolens was accustomed to do. This disease, under proper local and general treatment, usually got well. Now, if there had been any irregularity of the uterine functions in Dr. Fuller's case, the analogy between that and those referred to would be still more striking. Dr. Bright, in Guy's Hospital Reports had recorded a series of cases of extensive coagulation of blood from debility; in many of these the spleen was found to be congested, but, like the affection of the kidney in Dr. Fuller's case, this was only an accidental circumstance. The author of the paper before the Society had thrown out a question respecting the use of the preparations of steel in these cases. He (Dr. Burrows) had usually found these medicines of the greatest service; they were not contra-indicated by any evidences of inflammation. In fatal cases, the knife did not reveal any signs of such a state having existed. He agreed with the author respecting the cause of the affection, but he had never seen any instance of coagulation to the same extent as in the case under discussion.

Mr. H. Lee said, that if the view taken by Dr. Fuller of this disease was correct—if it arose from spontaneous coagulation of the blood, the affection could not be attributed to any one organ or set of organs, but must be looked upon as a result which might be produced by any cause which would tend to deprive the blood of its vitality. There were some experiments of M. Cruveilhier, which he thought tended to throw some light upon this point. M. Cruveilhier found, that by injecting ink into the femoral vein of a dog, he produced patches of congestion in different parts of the limb. He also found, that by introducing mercury into the cancellous structure of a living bone, similar livid patches of congestion were produced in other organs, especially in the lungs; and in cases of secondary abscess, the livid circumscribed patches of congestion, we well know, as the commencement of the secondary abscesses, must be attributed to the effect produced upon the blood by the absorption of pus, or some other diseased secretion, in the circulating system. If, then, in these cases, the properties of the blood were so altered as to produce patches of congestion in internal parts, might not the similar effects be expected in other cases with regard to the skin? Mr. Lee agreed with Dr. Fuller in his explanation of the pathology of this disease, but thought that the congestion and coagulation of the blood commenced in the capillaries, and not in the large vessels of the limb.

Medical Gazette, Feb. 5, 1847, *p.* 249.

ORGANS OF RESPIRATION.

136.—DISEASE OF THE LARYNX—TRACHEOTOMY.

By Dr. Watts, of Manchester.

[Dr. Watts relates an interesting case of a man who, when suffocating with syphilitic inflammation of the larynx, was saved by tracheotomy.

John Burns, aged 54, contracted syphilis in his eighteenth year, of which he ultimately got quite well. In the month of September, 1842-3-4, and 5, he had relapses, but in 1845, the attack was most severe, being unable either to lay down or sleep, from the great difficulty of breathing.]

Dr. Watts saw him for the first time, September 29th, after he had been given up for death by three medical gentlemen: the patient was then so breathless as to be scarce able to make the effort to whisper single words at intervals; his voice was nearly extinct, and the inspirations were accompanied with a loud hissing noise in the larynx. The friends stated he had not slept for twelve days, owing to the intensity of the orthopnœa. After a careful examination of the chest and air passages, and having obtained a perfect history of the circumstances, syphilitic laryngitis was diagnosticated; the iodides of mercury and potassium with other appropriate treatment were prescribed, and the case was viewed as being favourable for the performance of tracheotomy. In consultation with Mr. Dumville the plan of operation was agreed upon; but it was determined to wait until the last extremity before having recourse to it, and in the meantime the patient was carefully watched. In the evening of October 1st, the powers of life seemed fast failing, and it appearing impossible for him to continue the struggle for breath longer with safety, the operation was undertaken at his own instance, and most happily performed by Mr. Dumville.* The fit of spasmodic coughing usually attendant on the introduction of the tube having subsided, the man fell into a sound sleep even before the dressings were completed; so signal was the relief from suffering, so completely was he worn out by anxiety and fatigue, and deprivation of rest. The case progressed favourably; the patient continuing to take the medicines was soon under mercurial influence, and gradually improved in health. On the 30th October, precisely thirty days after the operation, the use of the tube was finally dispensed with; the wound closed up within a week, but required other seven days before the skin healed perfectly. The iodide of potassium was administered for a few months longer, to insure the thorough eradication of the lues; but from the period of the removal of the tube he continued steadily improving, until he regained more perfect health than he had enjoyed for many years; and it is remarkable that since then he has never been affected with the cough, which had persisted from 1842 up to the time of the operation, and was threatening to become habitual.

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* Mr. Dumville made the incision very low in the neck, with the view of keeping the wound and the tube as far removed from the site of the laryngeal disease as possible, considering that the process of cure within the larynx would suffer least interruption in this way. The plan, with this advantage, has its inconveniences, namely, the tube rides less securely and is more displaced in the low than in the high incision; so that the patient requires more watching and attention.

Dr. Watts remarked, that tracheotomy here afforded time and opportunity for the action of the specific remedies under circumstances in which life could not have endured long enough for them to have taken effect had it not been for the suspension of suffering obtained by the surgical operation. The event most completely justified the prognosis; and, notwithstanding the case had been treated by others as asthma, the circumstance of the syphilitic constitution, the chronic cough without pulmonary disease, the apparent origin of the cough in the larynx, the periodical relapses of the laryngeal affection, and the peculiar aching in the bones, appeared to him as sufficiently indicative of syphilitic laryngitis—an opinion which was further strengthened by the radically curative effect of the remedies employed. As promoting the success of the operation, he dwelt on the importance of the patient's room being made very warm before operating, as also on the propriety of maintaining a high temperature afterwards. He had known death follow, as if by shock or spasm, the sudden inhalation of the chilly atmosphere of the operating theatre in winter when this precaution had been neglected; and inclined to attribute the more frequent failure of tracheotomy in hospital practice in part to want of due attention to these points.

Medical Gazette, Jan. 29, 1847, *p.* 209.

137.—WOUND OF THE THROAT.

By Mungo Park, Esq , London.

[Remarking upon the difference of opinion which exists as to the treatment of cut-throat, Mr. Park relates a successful case which he lately attended. He found his patient, a woman aged 54, of melancholic temperament, lying on the floor in a state of syncope. The wound of the throat was four inches in length, and gaping; and the larynx was opened to such an extent, as to admit the point of the finger between the thyroid cartilage and the os hyoides. Mr. Park's account of the treatment is as follows:]

Having cleansed the wound, and adjusted its mangled parts, I proceeded at once to stitch it up, and to strap it closely with adhesive plaster. I applied a layer of lint and a bandage, and placed the head elevated upon the pillow, so as to keep the divided parts in juxtaposition. The pulse was so feeble, that I administered a little brandy-and-water, which revived her; and after giving the necessary instructions to the attendants, I left, and sent the following mixture:—Tincture of opium, forty minims; tincture of henbane, a drachm; camphor mixture, four ounces; mix: to take a fourth part every four hours. The wound was dressed daily, the general health attended to; and it was surprising to witness how speedily the wound healed. On the first day, she could not speak at all; on the second and third, she could, but in a low, husky whisper; and on the fourth, she articulated very well. I was careful in requesting the attendants to watch and keep her perfectly quiet; and thus the case proceeded most favourably for fourteen days, when I pronounced her convalescent, and ceased to attend.

In the account of the preceding case, I trust the question, whether union by the first intention in these cases can take place, will be completely set at rest; for, notwithstanding the magnitude of the wound, there was very little suppuration, and that merely superficial; and the short space of time ere the wound had perfectly cicatrized bears out the assertions, and confirms the opinions of Sir Charles Bell and Mr. Fergusson. Of course, in all cases of this description, it will be essentially necessary for the surgeon carefully to watch the effect of closing the wound on the organs of respiration, whether the epiglottis be injured, &c. It occurs to me, that the reason why those particular wounds are so difficult, or rather unsuccessful, in treatment, arises from their peculiar nature as regards the condition of the patient, who in most cases is more or less violent, the attendants being unable to keep him quiet; consequently, the position of the head, which is of so much importance, cannot be maintained, and he will often, as soon as he can seize an opportunity, violently tear the dressings from the wound, with a fearful determination to effect his purpose. Then there is also the act of deglutition, which is a hinderance to the healing process. In the present case, it may be remarked that every circumstance was extremely favourable; the patient was of a good constitution; no resistance whatever was manifested during the treatment; and the attendants were particularly attentive and judicious.

Lancet, Nov. 14, 1846, *p.* 526.

138.—*Treatment of Cut-throat.*—By ANDREW ELLIS, Esq., Dublin. —[Speaking of suicidal cut-throat, as discussed in Mr. Ellis's lectures on clinical surgery, the reviewer in the *Monthly Journal* says:]

Now, if (as we are led to infer from the manner in which the cases are detailed) Mr. E. advocates *immediate* closure of the wound, we consider the practice as at once dangerous and useless. Dangerous, because under any circumstances there is risk to be apprehended from swelling of the divided parts from infiltration, and this is necessarily increased by stitching the wound closely. Besides, after the active hæmorrhage has been arrested, there is always more or less oozing of blood, which, if it does not escape readily by the wound, is apt to trickle down the air-passages, and may prove fatal by suffocation. Mr. Liston relates a case in his work on Practical Surgery where the patient, except for his timely aid, would have been suffocated from the pressure caused by confined coagula, although the air-passages had not been opened into. The addition of compresses and plasters must of course add to the danger, on the interruption they cause to the breathing and circulation. And the practice is useless, because the constant separation of the deeper seated parts of the wound, caused by the slightest motion of the head, by attempts to swallow or cough, together with the passage of air and mucus between the divided surfaces, all render immediate union of such wounds impossible. Sewing up the wound, then, can only serve to render the appearance of the unfortunate patient less frightful, whilst it greatly increases his real danger. The insertion of a single point of suture near each end of the incision, in extensive transverse wounds, for the purpose of diminishing the exposed surface, is not liable, of course, to these objections.

Monthly Journal of Medical Science, Dec. 1846, *p.* 445.

139.—ON PARACENTESIS THORACIS.

By W. T. Iliff, Jun., Esq.

[Mr. Iliff, jun., gives us a very interesting case of empyema, or chronic pleuritic effusion, in the relation of which he enters on the symptoms and diagnosis. But we wish more particularly to give that part of his paper which relates to paracentesis, as a good deal has of late been written respecting the operation. He says:]

Before entering upon the subject of the treatment by tapping, it may be remarked, that instances are by no means rare in which Nature gets rid of the effused fluid independently of absorption. In some, this takes place through the substance of the lung, and on this head Hasse observes, that the perforation is generally at the inferior surface of the upper and middle lobes, where the part is least compressed, the perforations being either oblong or rounded, not exceeding two or three lines in diameter, seldom more than one, and smooth at their edges. Paulus Ægineta refers to this, and considers it generally fatal. In other cases, the thoracic parietes give way; this is, perhaps, a more favourable result, though frequently a fistulous opening remains, and in some cases caries of the rib is said to follow. The situation of the opening is generally in front, and between the third and fourth or fourth and fifth ribs. A case is recorded by Hunter, where the matter pointed and burst beneath the scapula.

In very rare cases, Hasse observes that the empyema may even have perforated the diaphragm, and he refers to three recorded cases, in one of which the pus descended behind the peritoneum, along the psoas muscle, with abscesses and fistulous channels in the thigh, as low as the knee.

With reference to the stage of the effusion, or time when the operation should be performed, no decided rule can be laid down; much must depend on the indication its removal is required to fulfil—viz., with reference to cure or simple relief: in the former case it is generally considered that where pus is effused and pointing, it may be evacuated at once, and where the fluid be serous not later than five or six weeks after the commencement of the attack, generally not more than two or three weeks after; for we must remember, that though we may, by the long-continued use of remedies, cause the absorption of the fluid, we have done but little, if, as Dr. Stokes has pointed out, the diaphragm and intercostal muscles have become dynamically dilated through paralysis, the effect of the neighbouring inflammation, and which does not occur in the early stages; or if, on the other hand, the lung is incapable of resuming its normal functions.

The results, however, of more careful and extended investigation are more favourable; and the able papers of Dr. Hughes, Dr. H. Roe, and others, that it may with great advantage be used to fulfil—to quote Dr. Hughes—these three indications:—

1st. The direct cure of the complaint.

2nd. Relief, without prospect of ultimate cure.

3rd. Facilitating the cure principally effected by other means.

In the case I have related, my treatment was based on the second; for, looking at the large quantity of the fluid in his chest, I feared that cure was not to be attained. I had also to contend with deficient nutrition; and it was not until the beginning of April I learnt that the patient was entirely dependent on the persons of the house where he lodged. From that date, however, an order on the parish procured him the articles ordered by me. Had his powers been earlier supported, his life might probably have been still further prolonged; as it was, the relief was very great, and the operation itself unattended with the slightest bad result.

With respect to the part selected, two chief situations are used, viz., the anterior lateral, and the posterior lateral.

In the former, recommended by the ancients, and by Sharp, Laennec, Colles, and others, the opening, owing to the origin of the diaphragm, is generally not lower than between the fifth and sixth ribs, nor higher than between the third and fourth. Dr. Duncan, jun., and others, however, relate cases in which the matter pointed between the second and third ribs, while there are not wanting instances of the sixth intercostal space being selected.

In the posterior lateral, practised by Lourd, Burserius, Mr. Cock, &c., the highest I have met with is between the seventh and eighth, the lowest between the eleventh and twelfth, in a case of Werner's, quoted by Burserius; this, however, is a most dangerous and almost unjustifiable situation for paracentesis.

It is not a matter of very great importance which position we select; much must depend on the physical signs: so also with reference to the instrument used, whether scalpel, oval, or flattened, or the round trocar. I think that when the collection of fluid is not very great, and when it is situated low down, and especially when pointing, a valvular opening with the lancet or scalpel is to be preferred, otherwise the round trocar, as used by Mr. Cock, of about one-twelfth of an inch in diameter, and two inches in length, exclusive of the handle, appears best adapted. The plan recommended by Hippocrates, of perforating a rib, and pushing the trocar through, has not, I believe, met with any advocates.

In all cases. I would urge the previous introduction of the explorator contrived by Dr. Babington, consisting of a needle contained in the smallest sized canula. Its superiority to the common exploring needle is great. Mr. Cock, gives a case in point, where it was used in a case of fungoid disease in the chest, and where fluid had been suspected. I remember a case where its utility was marked: a man was admitted with chronic abscess in the mammary region. Before admission, a medical man had introduced a common exploring needle, but was alarmed at only blood following, especially as this patient's history, in one or two features, suggested the possibility of aneurism. However, the same opinion as at first was entertained as to its nature when admitted here; the explorator was introduced, and a few drops of pus came out.

With respect to the quantity drawn off, here again no rule can be laid down; much must be left to the discretion of the operator, and must depend on the circumstances of the case. In large and chronic effusions, as much may be removed as can be without the admission of air, or faintness, or irritation of any kind, to the patient. The admission of air should, if possible, be avoided.

The bad consequences of its admission are owing, perhaps, not so much to its mechanical interference with the expansion of the lung, as to its action on the fluid effused, changing its character from a bland and inodorous to a highly irritating and fœtid liquid. Several very ingenious instruments have been invented for the prevention of the ingress of air, as the trocar, canula, and stopcock with double-action syringe of Mr. Snow, &c.; but undivided attention to the flow of the fluid through the trocar will, generally speaking, be found to prevent any material entry.

Lancet, Dec. 5, 1846, *p.* 605.

ORGANS OF DIGESTION.

140.—ON THE TREATMENT OF CLEFT PALATE.

By Professor Fergusson.

[In 'Retrospect,' vol. xi., p. 146, we gave an abstract of Mr. Fergusson's paper on Cleft Palate, and on the modifications which he recommended about three years ago, with respect to the best mode of operating. As that notice, however, was but a short one, and as Mr. Fergusson states that since that period his experience on the subject has considerably increased, we give the substance of another paper published by him. It was from a preparation of cleft palate in his possession, that he was first led to draw his novel conclusions regarding the physiology and surgery of these parts. He says:—]

It had long been familiar to those accustomed to see such cases on the living body, that during deglutition the two portions of the uvula came together in the middle line; but no one had attempted to explain how this could happen, and even such an acute observer as M. Malgaigne stated, that it was "by a muscular action, of which it is difficult to give an explanation." The dissection of the parts enabled me to explain this in a way which I imagine is incontrovertible; and to show you how this happened, as well as for other purposes, it will now be best that I should explain to you the condition of the parts in this malformation, and contrast it in as far as may be requisite with the natural state.

The preparation now before you exhibits the upper part of the mouth and pharynx of an aged female subject. The muscles of the pharynx have been carefully dissected, as have also those connected specially with the palate. A glance at the roof of the mouth shows the gap in the mesial line, and how the uvula, soft palate, and a portion of the hard, are involved in the defect. Behind it may be observed that the constrictors are not so broad,—so capacious, as in the natural condition, but that the muscular fibres are nevertheless as strongly developed. The upper border of the superior constrictor is especially well marked, and here it may be seen to form a kind of semicircular margin, extending between the basilar process of the occipital bone and the internal pterygoid plate, on which margin the levator palati muscle seems to rest. A perpendicular incision has been made through the pharynx behind, exactly in the mesial line, and, the mucous membrane having been stripped off the inside, the muscularity is thus rendered still more distinct. The mucous covering has also been taken off the upper surface of the palate, whereby one side of the nostril immediately above, and the muscles of the palate, have been more extensively exposed.

It may now be seen how the two portions of the uvula and corresponding parts of the soft palate touch each other during deglutition, for it is evident that, as the superior constrictor muscles act, they must throw or push the soft tissues in front forwards and inwards:—an effect which will be aided by the superior fibres of the middle constrictors, which, stretching across as they do from one side to the other, having no attachment mesially, as is also the case with the lower fibres of the superior muscles, must contribute powerfully to the result in question. A remarkable difference may here be observed between this and the normal state of the parts·

the palato-pharyngei muscles are not attached to each other, as in the well-formed palate. These muscles are seen to form the principal part of the free margin of the palate along the line of fissure; their course is somewhat semicircular from their upper end to their lower, the convexity being towards the middle; and it follows that during action, if not opposed in any way, they must pull the parts outwards—an action the reverse of that described by Dzondi, Muller, and others, as belonging to the muscles in their natural condition. The levator palati is seen throughout its entire course, and the tensor palati may also be clearly made out. The levator, it will be perceived, as I imitate its action by pulling it, not only acts very efficiently on the movable portion of the palate, but its sphere of action, from the muscle being chiefly muscular throughout its entire course, is so great that, during rigid contraction, it must forcibly pull the soft parts upwards, backwards, and outwards. It is worthy of special observation, that the tensor or circumflexus palati has hardly any influence on the velum, for, pull as I choose upon it, there is only the slightest movement to be observed at the parts where its tendon spreads on the surface of the soft palate. Neither in the natural nor in the cleft palate can this muscle have a power at all to compare with the levator, which, from its length, position, and character generally, is the principle motion of this very mobile part. The anterior pillar of the fauces is very slight, and the fibres of the palato-glossus are indistinct; the posterior pillar, however, is distinct enough, and formed as in the natural state by the bundle of fibres of the palato-pharyngeus. The azygos uvulæ is by no means distinct; a bundle of fibres, about the size of a crowquill, may be seen on the lower part of each free margin of the soft palate.

From such an inspection as this preparation afforded, I was led to take those views of the physiology and surgery of the parts, the explanation of which forms the principal object of this lecture. It required no great foresight to perceive that the movement of each side of the palate must depend chiefly upon the action of the levator muscle and palato pharyngeus. The influence of the levator muscle might have been calculated on from previous knowledge, but that of the palato-pharyngeus could scarcely have been thought of. Both must evidently have been the effect of widening the fissure, especially the levator; and the various conditions under which the palate may be seen can be explained by reference to these two muscles. When the mouth is looked into, and the soft portions of the palate are in a quiescent state, the fissure will then appear probably in a medium state. A slight irritation, with a probe or point of the finger, will cause a corresponding movement—the soft parts will be drawn upwards and outwards, so that the gap will be enlarged. If the irritation be increased, the same parts will be so acted on that they will almost disappear on the sides of the fissure, but even now, if an effort at deglutition be made, the two portions of the uvula will be forced together, by the action of the superior constrictors, as already explained. It seemed to me that under ordinary circumstances, after the operation for closing the fissure, the slightest irritation would be likely to call the levatores and palatopharyngei into action, and so induce that dragging on the stitches with which surgeons were so familiar—an influence sufficient, in some instances, to cause ulceration in the seat of the threads, or, in others, to cause separation of the recently-united parts. I therefore supposed that, if these muscles could be divided before bringing the edges of the palate together, the parts would remain so quiet immediately afterwards that there would be greater probability of union in the mesial line taking place than if the muscles were left entire or untouched. It was not long before I had an opportunity of testing the project on the living body. The result was so satisfactory that I tried it in another instance shortly afterwards, and here the effect was most complete. The two cases were appended to my paper on this subject when laid before the Royal Medico-Chirurgical Society, and since that date I have operated on eight more, making ten in all, in eight of which I have been perfectly successful in closing the soft palate. In some of these there has been fissure of the hard palate as well, and the parties have been content with the remaining comparatively small apertures, or have had them closed by obturators. I know of four other instances, where the operation, conducted on the plan recommended by me, has been successful. and a fifth which failed. During the same period I have known three examples of failure by the ordinary method. Thus, out of fifteen cases on my plan, there have been three which did not succeed, while all those done in accordance with Roux's operation were failures.

Medical Times, March 6, 1847, *p.* 25.

There are cases of cleft palate with which it would be unreasonable to meddle: the gap being so large and the soft tissues so narrow, that union could not possibly be anticipated. It has been supposed that when the two portions of the uvula are observed to touch each other during deglutition, the operation may invariably be undertaken; but the fact is, that in almost all instances these two parts touch at this particular time, however large the fissure may be, and it is better to be guided in deciding upon the propriety of an operation by the condition of the parts otherwise. In most cases where the osseous palate is open, there will be less certainty of a favourable result than if the soft velum alone were implicated. If it seems that only a small portion of the fissure in the soft parts can be closed, it will perhaps be best to leave the parts alone, and to trust for improvement entirely to an obturator or false palate, for it has sometimes been found that when there has been union only to a small extent, the condition has interfered with the proper adaptation of the apparatus.

The operation should seldom be undertaken until the patient has reached puberty. Much steadiness and self-command is required on his part, both during the operation and afterwards; and it is hardly to be expected that one under this age will have the fortitude to do what the surgeon expects of him. I have, in one instance, seen a youth of eleven years of age comport himself admirably during the operation; but any time between sixteen and four-and-twenty is that which should be preferred.

The mode of proceeding which I generally follow may be thus described:—The patient should be seated on a firm chair with his face to the light; the surgeon should stand a little in front, on the right side, and occasionally behind the patient. In this latter position he may see into the mouth by leaning over the face, and use his fingers with more satisfaction and facility than if he were always in front, for here he is apt to obstruct the light, and possibly fatigue his hands by holding them so long in an elevated position towards the roof of the mouth. I make an incision, about half an inch in length, a little above the free margin on each side of the cleft, whereby the levator palati muscle is divided. The knife is sharp at the point, and also at each side, so that it may be readily passed through the mucous membrane and carried backward and forwards to enlarge the wound to the requisite extent. The point of the blade is entered above the middle part of each soft flap, where there is the greatest thickness of tissues, and, whilst it is carried deep against the levator muscle, it is moved as just directed, and not withdrawn until the power of elevating the part seems to be done away with. If, when the knife is withdrawn, there should still appear strong muscular action in an upward direction, as may be ascertained by irritating the parts, it may be used again as possibly the whole of the muscle may not have been cut across. All this can be best done whilst standing at the patient's side. The edges of the fissure should now be pared; the mucous membrane of the middle part of each margin should be seized with hook-beaked forceps, and transfixed with a narrow, sharp-pointed blade which should then be run backwards and forwards so as to remove a slip of the membrane throughout the whole line of the gap. I have found it most convenient, at this stage of the proceeding. to stand before the patient whilst paring the left side, and behind him while cutting on the right side; but if the surgeon can hold the different instruments in each hand with equal facility, he may stand as he chooses. During the time, and more especially after these incisions are made, small pieces of sponge wrung out of iced water should be applied to clean the parts from blood and mucus; and the patient may also gargle the throat with cold water. The stitches should next be introduced thus:—A needle, set in a handle, armed with a portion of stout silk thread, three-quarters of a yard long, should be passed through the soft flap about a quarter of an inch from the free margin, half an inch or less from the posterior edge of the osseous palate, from below upwards, and when the eye appears above or in the gap, the thread should be seized and drawn into the mouth with forceps; while the needle is withdrawn, the end of the ligature (as yet double) should be brought out from the mouth to facilitate future steps, and also to prevent slipping. The same needle, or another like it, armed with a thread of a similar length, but much thinner, should be passed in like manner through the other side of the left palate, exactly opposite the first puncture, and similar manœuvres should be repeated. By fixing this second thread to the bent end of the first, where it is hanging out of the mouth, and then withdrawing it in the course through which it has already passed, the thread intended to form the stitch will thus be brought through the opposite side of the palate, when one end of it (for it has as yet been double) can be drawn out so as to leave both ready for knotting. Two, three, or four more threads, as may seem requisite, can be introduced in a similar manner; and now all that remains to be done is to draw the edges together and fasten the thread. The foremost thread should be first tied in accordance with the ordinary mode of making the interrupted suture; and the others should then be treated in the same order in which they have been introduced. Should an additional suture seem requisite in any part of the fissure, it may now be introduced by pushing the same needle from one side to the other—for now, when the parts are more fixed by the sutures, this may readily be accomplished. Before fastening the two knots furthest back, the pared edges should be brought together to ascertain the influence of the palato-pharyngeus in dragging them asunder. If this action seems strong, or if there be difficulty in drawing the parts together, the threads should be pulled forwards, whereby the posterior pillars of the fauces will be put upon the stretch, when each should be cut about half an inch behind the uvula, in an outward direction, to the extent of a quarter of an inch, and then there will be greater relaxation. Long curved scissors, with blunt points, are such as I use for this part of the operation, and the same are good for cutting off the ends of the ligatures, which is the last step in the operation.

In some instances it may appear best to effect the division of the palato-pharyngeus before passing the stitches. If this be desired, the fibres can be put on the stretch by drawing the uvula forwards with the beaked forceps. It will rarely seem requisite to meddle with the palato-glossus, but if its division is thought advisable, the scissors just described will be the best instrument to use. A small horizontal wound in front of the tonsil, and about midway between the tongue and palate, will suffice.

The hook-beaked forceps, and also those for seizing the threads, should be a little longer than those in common use; and the curved needle is similar to that often employed for the strangulation of hæmorrhoids, nævi, and such like growths.

I have named a stout silk ligature, as I think it preferable to any other kind. Sometimes I have used a hempen thread, but it is difficult to get the material sufficiently small and strong at the same time. I have never used the lead ligature, as recommended by Dieffenbach and others, and, from my experience of the operation, should not feel inclined to try it. The threads to be used should be well rubbed with wax, and it is highly advantageous to have them of different colours, whereby they can be more readily recognised during the proceedings.

In the ordinary operation, it has been found, on attempting to cast the common knot for the interrupted suture, that the first turn of the thread is apt to slip ere the second can be drawn. To prevent this, the points of the common forceps have been closed upon the first until the other has been brought upon it; or the surgeon's knot has been used in expectation that, the first twist of it being double, there should be less risk of slipping. Instead of a knot, Sir Philip Crampton has passed the two ends of the thread through an aperture in a bead of soft metal, which he has squeezed close upon them at the proper distance. Mr. Brooke has, with an ingenious method, .by means of glass beads, proposed to improve the style of suture here. The common knot and the surgeon's I have used most frequently, for I have always supposed that the beads might increase the after irritation. Besides, I feel satisfied that, in the operation which I perform, there is far less dragging on the threads than under ordinary circumstances, and that there is consequently less tendency to slip. But the slightest elasticity in the lateral flaps, unless indeed they be very broad, will be apt to produce a slip; and to obviate this, I imagine that a knot of this kind will be found very serviceable. On one portion of the thread I cast a loose loop, with a single turn; the other end being then passed through it, the loop is drawn tight, and the fingers are then pushed towards the roof of the mouth and the margins of the fissure, as with an ordinary knot.

Medical Times, March 13, 1847, *p.* 50.

[Mr. Brooke in replying to some observations of Professor Fergusson, says that he has repeatedly used the bead suture, to the mucous surfaces of the palate and vagina, as well as to the skin, and finds that it produces no sensible irritation. He continues:]

The bead suture (a description of which will be found in page 84 of the Abstracts of Communications, in the Report of the British Association for 1845) differs from all the other modes referred to in the lecture in this important point, namely, that the threads are not brought together over the wound (in which respect it resembles the old quill suture), and, consequently, the included portions of the edges, not being encircled or constricted by the ligature, are left free to undergo that degree of tumefaction which must necessarily precede the effusion of coagulable lymph, and the subsequent phases of the process of adhesive inflammation.

But this is not the only, or even perhaps the principal, advantage of the bead suture. It has been truly remarked, in the very instructive lecture on Staphyloraphy, that "hitherto the principal cause of failure has probably been the dragging on the stitches, from the action of the muscles, and the consequent disposition of the parts to be drawn asunder": and no doubt the ingenious device of Professor Fergusson will greatly obviate this inconvenience, but will not supersede the adoption of any subsequent measures which may be shown to be desirable.

It must be borne in mind, that in all the other modes of suture alluded to in the lecture, the pressure arising from traction acts principally on the cellular tissue through which the thread passes, and on a surface equal only to the diameter of the thread; whereas in the bead suture the pressure is sustained by the mucous surface, and by a portion of it equal in extent to the opposed surface of the bead, the form of which is an oblate or flattened spheroid, the length of the axis not being more than half the transverse diameter.

The giving way of any suture manifestly depends partly on the yielding of the fibres to the mechanical force of pressure, and partly owing to their removal by absorption or suppurative inflammation under the influence of the pressure, if it be not too forcible: and, as the vital yielding of soft parts will bear some proportion to the amount of pressure upon them, when a diminished pressure can be shown to exist, less tendency to irritation and ulceration may reasonably be inferred.

The capability of the bead suture in sustaining mechanical pressure, compared with that of any suture on which the soft parts are included in a loop, may be readily tested by the following experiment: let an incision be made in any portion, either of the external or mucous surface in the dead subject; let two portions of the same ligature be passed through two similar parts of the cut edge, taking up as much as would be ordinarily taken up in a suture; let one of these be doubled by bringing the two ends together, and let the external end of the other be passed through a flat bead, and prevented by a knot from returning. If the two are now gradually but forcibly torn out in succession, the difference in the amounts of force necessary to effect this object, will be immediately apparent.

Medical Times, March 20, 1847, *p.* 78.

141.—*Removal of Scirrhous Tubercle, &c., from the Soft Palate.*—By John Adams, Esq., F.R.S., Assistant Surgeon to the London Hospital, &c —[Mr. Adams records a very successful case of recovery from the application of ligature in this rare disease.

A man applied at the London Hospital in consequence of a tumour on the teft side of the velum palati. He first perceived it three years ago, and since that time it had gradually increased in size, but was unattended with pain or inconvenience until lately.]

The tumor, when examined, appeared about the size of a small walnut, was somewhat oval in shape, the long axis being from above downwards, and was evidently situated in the substance of the velum palati between its anterior and posterior mucous surfaces. It presented a somewhat whitish aspect from the stretching of the anterior layer of the velum over its surface, to which it was firmly adherent. The velum was perfectly moveable, and the tumour was drawn up at every movement of the palate, and a bent probe could be introduced behind it. It had a remarkably hard feel, and on running the finger over it, it gave the idea of true scirrhus.

I had no hesitation in giving an opinion on its nature, and on the propriety of attempting its extirpation by one of two methods —namely, by excision, or by the ligature. The former could have been accomplished with perfect facility, for the man had an enormous mouth, and possessed a remarkable power over the muscular apparatus in that cavity: but the fear of hæmorrhage deterred me from this operation, and I therefore adopted the alternative of endeavouring to strangulate the tumour by ligature. This was accomplished with some difficulty by the introduction of armed needles, and with an instrument of firm, though inflexible silver, having a steel point, armed with a long ligature, and let into an ivory handle. By these means the whole of the tumour was encircled, and the ligatures being tightened, it was at once apparent that its complete strangulation had been effected. Very slight constitutional disturbance ensued, and on examination on the following day the tumour was evidently sloughing. Five days after the operation I removed the greater part of the mass, leaving a large sloughy-looking wound: the slough, however, had no tendency to spread. By the frequent gargling with a solution of chloride of lime, a healthy granulating action was induced, and it began to heal rapidly. In the course, however, of a few days a warty vegetation sprang up from its surface: this has been gradually destroyed by the repeated application of solid nitrate of silver, and the disease is perfectly cured.

Remarks—I have termed the disease scirrhus, but it may be said that there is no distinct evidence of its scirrhous nature. Of course, it is impossible *positively* to assert its nature, as no examination could be made of it when in a state of slough; but that it was not an ordinary scrofulous tubercle (the only disease likely to be confounded with it) I am certain, from the distinct traces of its organisation when examined after its removal, and from the resistance offered to the introduction of the grooved needle prior to the attempt at its extirpation.

Medical Gazette, Nov. 13, 1846, *p* 836.

142.—ON STRANGULATED HERNIA.

By George May, Esq.

In all cases, the strictured parts should be liberated without delay. If, from any cause, delay have occurred, and the parts be tender, or in risk of sphacelus, the operation should be performed forthwith, without previous attempt at reduction by other means. In cases which would seem to justify the taxis, it should be carefully and judiciously attempted once only, the patient having been placed previously in the most favourable state for its trial. This state is relaxation, general and local; the former being induced by such means as do not permanently diminish power, and are adapted to the age and the other concomitant conditions; and the latter, by well-regulated posture. If, thus conducted, the taxis fail of success, the operation is demanded without further loss of time. Reduction of strangulated hernia has been effected by a great variety of means, and this has induced the employment of many in succession, with the hope of averting operative interference. Without enumerating them, or attempting a comparative estimate of their value, it is believed that the greatest ratio of success will follow their almost entire abandonment. The patient may be brought to the side of the bed, the stricture be divided, and the whole completed, in little more time than is required for an ordinary venesection. Much evil has resulted from exciting the fear of a dangerous operation, and by the distressing ceremonies of preparation. The strictured parts having been liberated, and the wound adjusted, the utmost quietude is needful, the after-treatment being essentially soothing. The cardinal points, in brief, are, early operation and sedative after-treatment, to the exclusion of multiplied appliances and manipulations before operation, and disturbing agencies, especially of purgatives, afterwards. See the papers by Mr. Macilwain, recently published in The Lancet.—*Statistical Report of the Surgical In-Patients of the Berks Hospital*, 1839 *to* 1845.

Lancet, Nov. 14, 1846, *p.* 548.

143.—*Case of Strangulated Congenital Hernia, in an Infant Seventeen Days Old, Requiring Operation.*—By W. Fergusson, Esq., Professor of Surgery in King's College, &c.—This patient, a child seventeen days old, had been perfectly well until the evening of December 6th, when it suddenly became fretful, and from that time up to the evening of the eighth, when seen by Mr. Fergusson, its sufferings seemed to increase. There was a painful tumour in the region of the left inguinal canal, and symptoms of strangulated hernia. The taxis had been tried without effect, and the indications seemed sufficient to warrant an immediate operation with the knife. On opening the sac a tea-spoonful of turbid serous fluid escaped, and a portion of small intestine was exposed.

The testicle was observed at the lower end of the sac. The stricture was divided and the bowel easily pushed into the abdomen. The patient, soon after the operation, went to sleep; in the course of three hours, there was a copious evacuation from the bowels, and all suffering seemed to have ceased. In the course of a fortnight there was a firm cicatrix, with no tendency to further protrusion.

The author remarks, that the tightness of the stricture had so far impeded the circulation in the cord and testicle, that the veins were greatly distended. The colour of these parts was purple, and the testicle was somewhat swollen, and not unlike a small sloe. He states his belief, that it is the prevailing opinion that inguinal hernia in an infant is usually congenital. To show that this is not always the case, he exhibited an example of very large protrusion of intestine in a boy only two years of age, wherein the distinction between the tunica vaginal testis and the proper hernial sac is clearly shown.

The author states, that he has never seen the operation for strangulated hernia performed on any patient under the age of puberty, excepting in this instance, and few surgeons have had occasion to use the knife in infants thus affected. In conclusion, the author refers to several cases on record, and to two communicated to him by Mr. Curling, in which an operation for hernia was performed at an early period of life, but he has not succeeded in meeting with any case of operation at an age so early as that of the patient whose case he has brought before the society.

Mr. Cæsar Hawkins had operated for hernia upon a child under seven weeks of age. It was brought into the hospital in all but a dying state. The hernia had been strangulated some days. The little patient was pale and comatose. The operation, however, was successful; but the child became again subject to hernia after two or three years. He did not think strangulation at an early period in life was so rare as Mr. Fergusson seemed to imagine; for he (Mr. Hawkins) had seen several cases in very young children. In one case in which a hernia was strangulated in a child three weeks old, he feared that he should have had to operate; but the strangulation was eventually removed by constantly dropping ether on the hernial tumour. In a case at twenty-two months of age, the operation was required. He had seen several cases under puberty requiring this proceeding. He had operated successively on a case at ninety-nine years of age.

Medical Gazette, Jan. 22, 1847, *p.* 154.

144.—*Treatment of Strangulated Hernia by Cold Applications.*—By Edward Greenhough, Esq., M.D., Fellow of the Royal College of Physicians Edinburgh, North Shields.—[Dr. Greenhough commences some remarks on this subject by stating that strangulated hernia is most frequently reduced when the surface of the body is cold and constricted. He says:]

It has long appeared to me that the ordinary treatment of strangulated hernia is both unscientific and unsatisfactory: let us consider what are the indications to be fulfilled, towards accomplishing the reduction of the tumor. These are, to diminish the velocity of the circulation generally, and more especially to diminish the vascular congestion of the strangulated portion of the intestine, to produce a general relaxation of the muscular fibre, and also to produce a constriction of the skin and integuments; and let us now examine how far the means usually resorted to are calculated to effect these objects. 1st.—The administration of purgative medicines; the effect of these is to increase the peristaltic action, and irritate the mucous membrane, and thus aggravate all the symptoms. 2nd.—The warm bath; the effect of this is to increase vascular action, and if it does produce faintness, it is by withdrawing the blood from the head, and concentrating it in those parts where we wish to avoid congestion. 3rd—The tobacco injection; the first effect of this is to increase the determination to the intestinal canal, and should it eventually produce a relaxation of the muscular fibre,

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it may effect a reduction of this tumor; but on the other hand, should it fail in this, the prostration of the vital and nervous energies, occasioned by it, will render the success of an operation more doubtful.

The treatment which I venture to suggest is the following.—Let the patient be laid upon a hard mattress, and covered by a shirt only, the room to be kept perfectly cool, and cold applications used to the tumor; the patient to take every half hour a solution of tartar emetic, in such doses as to produce great nausea or some vomiting, and when fairly under its influence the taxis may be used, but in a very gentle way, and not persisted in many minutes, but tried again at short intervals. Should these means fail to accomplish its reduction in four or five hours, the operation should not longer be delayed, for the great danger consists not in the operation itself, but in postponing it too long.

Medical Gazette, Jan. 1, 1847, *p.* 34.

145.—*On Polypus of the Rectum.*—By M. GUERSANT, Jun.—A little girl was lately admitted under the following circumstances:—Two months since, blood was passed in small quantities with the motions, and during the expulsion of the fæces a red tumour was observed to protrude from the anus. When a child presenting these symptoms is brought to a surgeon, it is natural to suppose that the case is one of prolapsus ani: this opinion must not, however, be exclusively adopted; we have several times detected in such children the presence of polypus in the rectum. It is worthy of remark, that no ancient or modern work on the diseases of infancy has alluded to this form of disease. M. Stoltz, in 1831, was the first to give a history of the symptoms, and two cases only were previously on record: one published in "Hobold's Journal," 1828, by M. Schneider; the other by Dr. Lange, of Berlin, in 1776.

The first signs are those above-mentioned, viz., sanguineous motions, and tenesmus; defæcation gradually becomes more and more impeded, in proportion as the polypus increases in size, and is accompanied by violent efforts of expulsion, which force out from the intestine a red, even tumour, at first easily reduced. We have often noticed a sign which we conceive to be of some value—it is the presence of a groove or furrow on the surface of the fæces, caused by the pressure of the polypus; but the issue of the tumour through the anus is the only certain diagnostic sign. During the first period of the complaint the swelling is round, and slightly flattened at its sides; the external segment is more voluminous than its intestinal portion.

Authors do not agree upon the nature of these growths: some consider them to be of a fibro-cellular structure; others, on the contrary, believe them to be always of a mucous texture. Thus, M. Stoltz thinks, that in many cases, they are the result of frequently repeated prolapsus ani, a portion of mucous membrane incarcerated in the ring of the sphincters becoming congested, swollen, and pediculated after a certain period. Such may be, in some instances, the real mode according to which polypus of the rectum is generated, but there are many exceptions---thus, polypus is frequently observed on mucous surfaces unprovided with sphincter muscles; besides, prolapsus ani has other well-known results; let us add, that polypus has been observed in subjects who had never suffered from prolapsus ani. We have usually found these polypi to consist of a mucous sheath borrowed from the mucous membrane of the rectum, enveloping a spongy texture.

So long as the tumours do not issue through the rectum, a hæmorrhagic discharge from the intestine, and the nature of the stains of the linen, cannot furnish a positive basis to the diagnosis; the finger must be introduced *per anum*, the pedicle of the tumour accurately circumscribed, and the spot of its insertion precisely ascertained. Although the prognosis must usually be favourable, still the abundance and frequent return of hæmorrhage may seriously injure a child's health, and it is therefore necessary to come to a speedy determination when once the nature of the disease has been correctly ascertained. The spontaneous cure can readily be understood; the polypus, gradually expelled by efforts of defæcation, drags more and more upon the pedicle, which daily diminishes in diameter and increases in length, until at last it yields to the frequent repetition of the efforts; the polypus falls away, and a a spontaneous removal of the complaint may be said to have taken place. Perhaps, even such polypi may have been the unknown and unsuspecting cause of rebellious diarrhœa, which ceased after their spontaneous expulsion, after medicines of various kinds had previously been exhibited without success.

We do not approve of the use of caustics, because their action is uncertain, and their applicability in cavities like the rectum is always inconvenient, and sometimes unsafe. Excision we adopt only when the neck of the tumour is very narrow, because even a slight hæmorrhage may endanger the life of a child. We prefer to all other methods, simple ligature, because all danger from loss of blood is obviated, and the little patient suffers no pain: in general, when the implantation of the pedicle is not very high, the threads may be simply carried with the finger round the neck; but, in the contrary case, the introduction of the speculum ani considerably facilitates the operation.

Medical Times, Nov. 21, 1841, *p.* 137.

146.—*On a New Mode of Treating Prolapsus Ani.*—By Dr. T. J. HAKE, Physician to the Suffolk General Hospital, &c.—Prolapsus of the bowel is a disease for which both those who give and those who receive advice must allow that no adequate means of relief has been hitherto proposed. Some years ago, disappointed in the contrivances and remedies of the day, while more than one patient suffering from prolapsus ani made application to me for relief, I suggested to Mr. Weiss the construction of a spring pad, consisting of a coil of wire surmounted by an ivory nipple. The pad was made, and fixed upon an understrap attached to a belt. The power of the spring was about equal to the pressure of the finger when applied to maintain the rectum in its natural situation. I am informed that this instrument is largely used, and preferred by patients to every other contrivance for prolapsus ani. It had been found so effectual by a patient of my own, that, when I called on him to propose the simpler contrivance which will be described presently, he acquainted me that he was well. His case was of many years standing; his disease deprived him of exercise and all active enjoyment. He attributed his cure to the support afforded by the pad and medicine simultaneously prescribed.*

Such are the distressing consequences of this malady, that any simple and inexpensive means of cure must be hailed as a boon by a large number of sufferers, so large as to support a separate class of practitioners.

It is not my purpose to describe the disease itself and its accompaniments, so well known; but allusion to its ill effects, both physical and moral, may not be inappropriate, as these make up the sum of suffering for which means of relief are proposed.

Protrusion of the bowel may involve the production of inflammation. This is often caused from constriction of the gut by the sphincter ani, and the irritation which the part becomes liable to subsequently from friction. The parts thus strangulated and inflamed are too tender to be replaced, and need a process of depletion and fomentation before they can be returned. Such an accident, recurring from time to time, conjointly with the irritation to which the bowel is exposed, gives rise to thickening of the mucous membrane; consequently, the parts are with difficulty restored even for a minute.

Hæmorrhoidal tumours are common causes of prolapsus ani, and when they protrude are liable to the changes above alluded to.

The moral effects are yet more lamentable. The labourer is rendered by the disease unfit to work; the professional man unable to follow his calling. Whatever the duties of his station, the patient shuns society, and often becomes a hypochondriac.

The mode of treatment which I have used for some time, and with complete success, both in prolapsus ani and protrusion of hæmorrhoidal tumours, was first suggested to me by a friend and patient.

The plan in question is described in a few words: it consists in returning the bowel or hæmorrhoidal tumours with great care after the daily motion; in assisting its return by means of soap-lather; in applying a coil of moist sponge firmly upon the anus, and, while retaining it there with one hand, to bring the nates together by means of a broad strip of adhesive plaster, as in approximating the edges of a wound.

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* Potass. bicarb. scrup. i.; tinct. rhei, oz. ss. ante prandium indies sum.

This method I have now tested in several cases: it has never failed of success.

Medical Gazette, Feb. 19, 1847, *p.* 320.

147—*On Nutritive Enemata.*—Perhaps this mode of conveying nutrition into the system in cases in which the patient either cannot or will not swallow, is not sufficiently resorted to, although, truth to say, the examples of its efficacy, in cases in which it has been employed, are not sufficiently numerous to afford much encouragement. Mr. Ormerod, however, furnishes a well-marked one. "A man of about 20 years of age was admitted with his pharynx opened and the glottis exposed. He was unable to articulate, and vomited frequently through the wound, for an hour and a half, fluid mixed with blood. On the second day he had an enema of milk. From the 2nd to the 41st day he took daily, in three enemata collectively, two pints of broth made from rather more than one pound of beef. His hunger was always appeased by the enemata. When his bowels were confined some salt was added, which was sufficient to open them. Once some wine was added to the injection. On the 41st day the injections were omitted, and food was given by the bowels (?). On the 41st day the wound was nearly healed, and the man looked well, and in tolerably good condition. He could, however, only speak in a whisper.

Medico-Chirurgical Review, Jan. 1847, *p.* 73.

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URINARY ORGANS.

148—OBSERVATIONS ON LITHOTOMY.

By Sir P. Crampton, Bart., F.R.S., &c., &c.

[The following valuable article is from the Dublin Quarterly Journal, in which Sir Philip Crampton describes an improvement in the lateral operation for stone; and a mode of performing lithotomy in women, which is not liable to be followed by incontinence of urine. He says,—]

The intention of the lateral operation is to reach the cavity of the bladder, from the perinæum, by an opening which shall leave untouched the bulb of the urethra anteriorly, and the membranous part of the bladder beyond the prostate posteriorly. It is an important principle of the operation that the opening should in some wise be proportioned to the size of the stone, so that if it be large it may be extracted with the least possible violence to the soft parts generally, but particularly to the neck of the bladder and prostate. This, no doubt, could be effected by making a complete division of the prostate either on one or both sides; but experience has shewn that such a division of the gland, if it include the fibro-membranous sheath by which it is covered, is fraught with dangers quite as great as those arising from its laceration, namely, infiltration of urine into the loose cellular tissue that connects the back of the prostate with the rectum. It may be stated, then, as a general proposition, to which I am not aware that there is any exception, that that mode of performing the lateral operation is the best, which effects the division of the prostate gland to the required extent, by an incision which shall neither be so superficial as not to admit of the introduction of the forceps without causing laceration of the neck of the bladder, nor so deep as to divide the prostate gland, through its entire thickness, up to its base.

It is among the most remarkable circumstances in the history of operative surgery that the mode in which the lateral operation was performed by its real inventor, Frere Jacques, and by its improvers Rau and Cheselden, is still a subject of uncertainty and debate.

It would appear, then, that the lateral operation (like many of the inventions which have conferred the greatest benefits on mankind) was not, *as it is now performed*, the invention of any individual; that it was originally designed by Frere Jacques, and received its first improvement from Merry; was still further improved by Rau; and finally was brought to perfection by Cheselden, in 1720: and it may be recorded amongst the curiosities of surgical literature, that the earliest, and, to this day, the best account of Cheselden's lateral operation is to be found in Le Dran's *Parallele*, published in the year 1730.

The principle of the lateral operation, then, is now clearly understood and universally admitted, and the only difference among operators relates to the means of performing the second or internal incision, by which it is proposed to make an opening of sufficient size into the bladder, through the membranous part of the urethra and prostate gland, or as Cheselden well expresses it, "through that part of the urethra which lies *beyond* the corpora cavernosa, and *in* the prostate gland."

The principal means which have been devised to effect this object are,—

1. The same knife, of whatever form, by which the external incision has been made.

2. The straight, grooved director and lithotome of Le Dran. Daunt's knife and director, with improvements by Messrs Dease and Peile.

3. A beaked knife; that is, a knife, whether bistoury or scalpel, the point of which is blunt, and prolonged into a beak, which being held by the urethra in the groove of the staff, guides the cutting part safely into the bladder.

4. The *bistourie cachè* of Frere Cosme.

5. Cutting gorgets of various constructions.

6. The double *bistourie cachè* of Dupuytren, for the bilateral section of the prostate.

7. The operation, by dilatation, of Bresciani de Borsa.

1. The scalpel, as employed by Cheselden, is very generally used by experienced operators; and in boys under fifteen years of age it is, perhaps, the most convenient instrument that can be employed.

but it should not be concealed that it is an instrument which can be safely handled only by those who to a natural dexterity add great experience in the use of instruments. In the deep perinæum of an adult, the hand of an operator, while making the incision of the prostate, is removed to a great distance from the point of the knife, the whole blade of which, as well as a portion of the handle, is concealed in the wound. This distance is continually increasing with the depth of the incision, so that it becomes exceedingly difficult for the operator so to regulate the pressure on the point of the knife against the staff as shall at once prevent it from slipping out of the groove, and yet permit it to glide smoothly into the bladder. Again, nothing short of great experience can teach him how much pressure he should apply to the edge of the knife to make the "drawing cut" outwards (which is to connect the internal with the external incisions) of the required extent, neither so small as to oppose too great an obstacle to the extraction of the stone, nor so large as to divide the base of the prostate and its aponeurotic covering.

A just appreciation of these difficulties has, ever since the introduction of the lateral operation, led surgeons of the greatest eminence to devise various means of effecting the internal incision, by which the dangers and difficulties attendant on the use of the scalpel might be lessened, if not altogether avoided.

2. Le Dran seems to have been the first to perceive that when the groove of the staff was laid bare in the perinæum, a straight and blunt director might, in the first instance, be more safely introduced into the bladder than a knife; and that a long-handled knife, or "lithotome," as he terms it, guided by this director, might effect the division of the prostate gland more safely than the scalpel. He accordingly described his "new method" in his Treatise on the Operations (page 235), which he states that he had not discovered at the time he published his *Parallele*,—and gives a plate of his director and lithotome. He thus describes his mode of using the instruments:—"This done," (that is the external incision being made, and the groove of the staff laid bare), "I take a large director, the end of which is made with a beak like that of a gorget, and, conveying this beak on the blade of the knife into the groove of the staff, I draw the knife out. I then slide the beak of the director along the groove of the staff into the bladder, and I withdraw the staff by turning the handle towards the patient's belly. The following circumstances will sufficiently satisfy us that the director is introduced into the bladder; first, if it strikes against the end of the staff which is closed; secondly, if the urine runs along the groove. I next feel for the stone with this director, and, having found it, endeavour to distinguish its size and surface, in order to make choice of a proper pair of forceps; after which I turn the groove towards the space between the anus and the tuberculum ischii, and, resting it there, convey a bistoury along the groove, the cutting blade of which is half an inch broad, and three-quarters of an inch long. I continue the incision in the urethra

made by the knife, and entirely divide the prostate gland *laterally*, as also the orifice of the bladder; and I am very certain that the introducing the use of these two instruments, which are not employed by other lithotomists, does not prolong the operation a quarter of a minute, but rather shortens the time, both by facilitating the dilatation which is afterwards to be made with the finger, and by rendering the extraction of the stone more easy. The bistoury being withdrawn, the groove of the director serves to guide the gorget into the bladder; I then introduce my fore-finger along the gorget (which is now easily done, as the prostate, being divided, does not oppose its entrance), and with it dilate the passage for the stone, in proportion to the size which I discover it to be. This dilatation being made, I withdraw my finger and use the proper forceps.

This is the operation of which Cheselden speaks in such high terms; and if it had no other claim to our attention than that it was the operation of Le Dran, and approved by Cheselden, it would be deserving of the consideration of every lithotomist. But it has in this country a peculiar claim to our regard, for it contains the germ of an operation originating with Mr. of Daunt, Dublin, in 1750, and subsequently brought, by successive improvements in the instruments, suggested by the late Mr. Dease and by Mr. Peile, to a very high degree of excellence. The following is Mr. Dease's account of the method of operating with Mr. Daunt's instruments:

"The patient being properly secured on the table, and the staff introduced and held by an assistant, the operator makes his external incision, as described by Sharp and Bromfield, or as if he was to use the cutting gorget. Having opened the membranous part of the urethra, the operator introduces the conductor along the groove of the staff into the bladder; he then withdraws the staff, and takes the conductor in his left hand. Having introduced his two forefingers into the handle, he places his thumb over the bow of the instrument, which gives him an entire firmness as to the rest of the operation. He then lateralizes the conductor by the pronation of his wrist, and takes the lithotome and engages it on the crest of the conductor, and finishes the operation by running the lithotome along the crest: having arrived at the extremity of the conductor, he withdraws the knife along the crest, and then introduces the forceps on the conductor, which withdrawn, he proceeds to the extraction of the stone."

Mr. Peile, in an excellent paper, published in 1807, in the first and only perfect volume of the Dublin Medical and Physical Essays, describes the improvement which he has made in these instruments, and adds some highly important directions respecting the mode of using them. He lays great stress on the necessity of the close application of the conductor to the arch of the pubes while passing the lithotome, a circumstance not noticed by Mr. Dease, yet one on which the safety of the operation mainly depends. A neglect of this precaution in passing the conductor must almost necessarily lead to the wounding of the rectum. I have often seen Mr.

Peile operate by this method, and I have also employed it myself; and so impressed am I with its value that I would strongly recommend its adoption, *in the case of adults*, by all persons who are inexperienced in the operation of lithotomy—and all operators must, at first, be inexperienced; and if I now had occasion to operate on an adult with a deep perinæum, and a large stone, it is probably the mode of operating I should adopt in preference to any other.

I may just observe that Mr. Daunt's operation differed in a material particular from Le Dran's. Le Dran, influenced, no doubt, by early impressions, retained the great error of the Marian operation, in commencing his external incision too high, and not continuing it sufficiently low. The consequence was, that although he cut with his lithotome the parts that were dilated, or rather lacerated, by the "dilators," in the Marian operation, he still had to extract the stone through the narrowest path of the lower outlet of the pelvis.

Mr. Daunt's, on the contrary, was a true "lateral operation;" beginning his incision where the Marian incision ended, he opened the membranous part of the urethra with the scalpel, leaving the bulb untouched, and, guided by his straight director, completed the section of the prostatic urethra, and of as much of the surrounding gland as was necessary, by a lateral incision, made securely by his sliding lithotome.

3. The beaked bistoury of Mr. T. Blizzard, and the beaked scalpel of Sir Benjamin Brodie, are, no doubt, safe and excellent instruments in the hands of such operators as their inventors, and in any hands they are safer than the mere knife, and infinitely preferable to any form of gorget. Held in the groove of the staff by the beak, the cutting part is safely guided to the bladder, and the operator has more control over the direction and extent of his internal incision than with the gorget.

4, 5. The *bistourie cachè* of Frere Cosme, and the cutting gorget of Sir Cæsar Hawkins, have fallen into disuse, at least in this country. Both are subject to the objection which applies to all methods by which it is proposed to regulate the extent of the incisions by the dimensions of the instrument, or by any mechanical action rather than by the hand of the operator. The cutting gorget, pushed firmly against a large and dense prostate, connected to the inner surface of the pubis by rigid aponeurotic and muscular fibres, will make an incision in the gland of a very different extent from that which will result from the same degree of pressure against a small and soft prostate connected to the pelvis, as such a gland generally is, by a loose cellular tissue, and a few pale and yielding fibres of the levator ani. In the first case you have a deep incision, nearly, or it may be entirely, dividing the gland through its whole substance; in the second you have a shallow nick, just marking the place where the gorget rested when it pushed the gland before it.

6. The double *bistourie cachè* of Dupuytren, is, of course, twice as objectionable as the single *bistourie cachè* of Frere Cosme.

7. If, in the bilateral operation of Dupuytren, the section of the prostate, and neck of the bladder, appears, in the opinion of British

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surgeons, to be carried too far, the operation of Bresciani, of Verona, seems to err in the opposite extreme, for in it the whole of the opening into the bladder, after the division of the membranous part of the urethra, is made by dilatation.

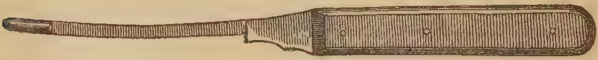
In England the nearest approach to the Verona professor's mode of operating is that practised with so much success by Mr. Liston, who, in common with all successful lithotomists, depends mainly upon his fore-finger for dilating a "very limited incision;" he takes care, however, that the knife always preceding the finger, shall divide just so much as it is "indispensable" to divide, and no more. I had the gratification of seeing Mr. Key operate last summer with his straight staff and scalpel, and I observed that he used the fore-finger for dilating the internal incision, but performed that most important part of the operation with the greatest gentleness; the staff was committed to the hands of an assistant. The stone was extracted from the patient (a child six or seven years of age) in less than a minute, and it was impossible for the operation to be performed in a more masterly manner.

Now it may be useful to inquire, what are the difficulties and dangers which attend the purely operative part of lithotomy? They are, in the first place, hæmorrhage, from wounding the internal pudic artery, or one of its large branches close to the trunk, by turning the edge of the knife too much *towards* the ramus of the pubis, and making the incision too deep in that direction; or by dividing the artery of the bulb in laying bare the groove of the staff. Secondly, wounding the rectum by turning the edge of the knife too much *downwards* from the ramus of the pubis, and cutting too deeply in that direction. Thirdly, the point of the instrument (knife, lithotome, gorget, or director) going at a tangent off the curve of the staff, and passing between the bladder and rectum. There are other dangers which relate to the mode of introducing the forceps, the grasping and extricating the stone, but these are more easily avoided, and, as they are not connected with the cutting part of the operation, need not be touched upon here.

Now I trust that I shall be able to shew that the operation may be performed in such a manner as, in a great measure, to avoid the dangers inseparable from the knife, when used in the ordinary way. There is no novelty in the plan of the operation, and the instruments are, with scarcely any alteration, those in common use.

I merely propose a mode of using the straight, blunt-pointed bistoury, which renders that instrument perfectly safe, by which the operator divides the prostate gland and the neck of the bladder by an incision which shall be of an uniform size,—never so deep as to cut the base of the gland, and yet always sufficiently so to admit of dilatation to any required extent. The principle, then, of the operation is twofold: first, to avoid, in effecting the second, or deep incision, the danger arising from the escape of the instrument, whatever be its nature, knife or gorget, from the groove of the staff. Secondly, to effect, without the risk of hæmorrhage, an incision of the prostate, which shall, *in every case*, be just sufficient, and no more, to allow the fore finger of the operator to pass through it into the orifice of the bladder. This done, it is well known to every practical lithotomist that the rest of the operation, so far as the opening into the bladder is concerned, is most safely effected by dilatation, those cases, of course, excepted, where the great size of the stone requires for its safe extraction the division of the prostate on both sides. But the proposed method of using the bistoury is equally applicable to such cases.

The peculiarity of this operation consists in the mode of using the bistoury, which is made to cut on the principle of the *wedge* instead of that of the *saw*, the cutting edge being pressed down upon (not drawn over) the fibres of the part intended to be cut. Every surgeon must have observed that in cutting the soft parts of the living animal body the resistance to the knife is not uniform; muscular, aponeurotic, and cellular texture, giving different degrees and kinds of resistance; some structures flying, as it were, under the edge of the knife, and others bending or stretching before it. In removing a tumour, for instance, we observe its adhesion to the surrounding parts is firm only at certain points, and those points often at a considerable distance from each other. These, whether of condensed cellular or fibrous texture, if made tense by moderate traction, fly under the edge of the knife, and then division liberates a large surface of the tumour. In the perinæum, where the same variety of structure exists in a remarkable degree, the same variety of resistance at different points may be observed on passing the finger through the wound leading to the bladder, or in extracting a large stone. Now, in lithotomy, it is confessedly an object of the greatest importance to effect a sufficient opening into the bladder with the least possible cutting, but also with the least possible laceration of its neck. This object, it appears to me, may be obtained by the following mode of proceeding. When the external incision has been made in the usual direction, and to the usual extent, the point of the scalpel, guided by the fore-finger, is to be gently pushed into the groove of the staff—the groove being laid bare to the full extent of the membranous part of the urethra—the blunt point of the straight narrow bistoury, here represented one-third the proper size, which, like Sir A. Cooper's hernia knife, is squared to the extent of half an inch, is to be introduced into the groove of the staff, *in which it is completely concealed*, and from which it cannot escape without tearing quite through the prostate. Pioneered, then, by this blunt portion of the blade, the cutting part, still concealed in the groove of the staff, is lodged safely in the prostatic urethra, while the blunt portion enters the bladder. The point being then firmly pressed against the portion of the staff that is lodged in the bladder, the operator gives a slight degree of



lateralization to the blade, and slowly depresses the wrist of the right hand, so as to bring the heel of the knife down to the lower angle of the external incision. The whole wound thus forms a triangle, the base of which is at the integuments, and the apex in the bladder. One side is formed by the staff above, the other by the bistoury below. The staff is then withdrawn, and the knife being held steadily in its lateral position, with its heel still depressed, the operator slowly slides the fore-finger of his left hand along its back, *as far as it will go;*—in adults, in whom the perinæum is not usually deep, the top of the finger will pass into the bladder, and in general come in contact with the stone; but even in the deepest perinæum the top of the finger will reach to the orifice of the bladder. The operator has thus completed the main intention of operation, as it is understood in these countries; that is to say, he has made an opening of sufficient size to pass his fore-finger quite into the bladder, in a vast majority of cases, but quite into its neck in all cases, and that has been done with no more division of the parts by the knife, than was necessary to effect the dilatation of the neck, *without its laceration.* It is plain that when dilatation is combined, in this way, with cutting, there can be no laceration, for all the fibres that oppose a resistance to the stretching (and that would, from their structure, be torn rather than yield, if the stretching were increased), are cut by the perpendicular pressure of the edge, and, what is most to be desired, no other fibres are cut, for the elastic or dilatable parts, when deprived of the support of the inelastic fibres, yield before the wedge-like pressure of the finger.

The opening into the bladder is then, *in all cases*, and without reference to the state of the prostate, exactly sufficient to receive the fore-finger of the operator, *plus* the blade of the bistoury, the back of which being partly buried in the pulp of the fore-finger, does not exceed one-sixteenth of an inch in breadth. The opening being thus made, the bistoury is slowly withdrawn along the trajet by which it entered the bladder. The operator, if he has reason to think he has a large stone to deal with, presses the edge of the knife gently downwards and outwards, so as to enlarge the incision along its whole course. A blunt and somewhat conical gorget* is then passed on the finger into the bladder, with its extremity slightly inclined towards the lower fundus, while the whole instrument is depressed towards the rectum, a manœuvre which greatly facilitates the seizing and extracting the stone.†

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* The blunt gorget of Cheselden without a beak. Mr. Keith, in his excellent practical essay in the Edinburgh Medical and Surgical Journal, very justly remarks, when describing the advantages of the gorget, that it lies "safely in the bladder, and, the staff being withdrawn, becomes the actual conductor, guiding the forceps without violence safely into the bladder;" but then it should be borne in mind, that his instrument, though called a *blunt* gorget had a "*tearing edge*," with which the prostate was divided or lacerated,—while that used in this city is merely a dilator and director.

† While these sheets were passing through the press I assisted Mr. Cusack at an operation of lithotomy at Steevens' Hospital. He operated in the manner

Lithotomy in Women.—The facility with which the female urethra can (under certain circumstances) be dilated, and the ease with which calculi can be broken down in the bladder, would seem to render lithotomy in this sex, an operation which surgeons would seldom be called upon to perform; this, however, is far from being the case, for lithotrity is applicable to a very limited range of cases only, and in numerous instances, the dilatation of the urethra cannot be effected, *to any considerable extent*, without more pain, and even danger, than is attendant on lithotomy itself. In many, perhaps in the majority of instances, calculi, particularly in young women, are formed on extraneous substances introduced into the bladder. Wire hair pins, toothpicks, and needle cases, are among the articles which have been detected as forming the nuclei of stones extracted from the female bladder. Lithotrity is, of course, inapplicable to such cases, as the nucleus would probably remain behind after the stone, which was formed on it, had been pulverized and discharged. If the patient be under puberty, or if she have never borne a child, dilatation, to such an extent as to admit of the extraction of a large calculus, or of an extraneous substance of a considerable length, will be attended with such intolerable pain, and such alarming constitutional symptoms, as to render it in the highest degree inexpedient to resort to this mode of treatment. But in women who have borne children, and particularly if they be advanced in life, and of a lax fibre, the urethra seems to partake of the dilatability of the genital organs, which is developed by parturition, and in such subjects; dilatation of the urethra, to any required extent, may be safely effected in a few hours, or sometimes even minutes, by Weiss's dilator. There is, however, a class of patients for whose relief lithotomy (in the present state of our knowledge) offers the only means of relief. But perinæal lithotomy, in whatever manner performed, if the stone be large, is said to entail the miserable consequences of incontinence of urine. Such, at least, is the opinion of two of the most distinguished and experienced surgeons of the present age. Now I am enabled to state that an operation on the principle of that recommended in this paper for the removal of calculus from the male, can be applied to the female, even when the stone exceeds an ounce and a half in weight, with perfect safety, and without entailing the deplorable consequence of incontinence of urine even in the smallest degree. I lay no claim to originality in suggesting this operation; the principle has long been established, and has been acted upon by Sir B. Brodie and Mr. Liston. The *principle* is the combining dilatation with incision.

described in this paper, and extracted in a very short time from a youth about 17 years of age, a stone measuring in its long diameter two inches and a-half, and weighing three ounces two drachms.

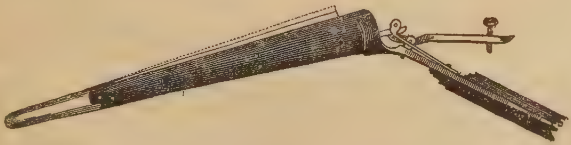
[In America cutting gorgets are the instruments principally employed in lithotomy; but Professor Mussey, of Cincinnati, uses, we understand, a straight, probe-pointed, narrow bistoury, somewhat in the manner described in the text. But this gentleman employs the bilateral incision in the extraction of the stone in all cases.—Ed. Dublin Q. J.]

Sir B. Brodie says he tried a method of operating, which, he was "informed, had been adopted by an eminent provincial surgeon, and which had not been followed by incontinence of urine. The operation consisted in making an incision of the urethra, with the *bistourie cachè*, so arranged that the cutting edge should not project more than about one-sixth of an inch; "then drawing out the bistoury, with the cutting edge turned directly upwards," he endeavoured to divide the membrane of the urethra immediately below the symphisis pubis, without allowing the incision to extend into the contiguous cellular tissue. The next step of the operation was to introduce Weiss's dilator, and expand the urethra so as to allow the introduction of the finger, and then of the forceps, into the bladder. The dilatation was readily effected in a few minutes, and the stone was extracted. The patient, he adds, did not suffer from actual incontinence of urine; she could not, however, retain it for more than two hours.

According to Mr. Liston, "the best mode of extracting foreign bodies from the bladder is to widen the urethra gradually by means of the screw dilator, then by the introduction of a straight blunt-pointed knife, to notch the neck of the bladder slightly towards each ramus of the pubes, so as to divide the dense fibrous band encircling it; the dilatation is continued, and, in a few minutes, the finger can be admitted. The stone can then be readily grasped by a pair of forceps, and it is astonishing how large a body may be removed by these means. Incontinence of urine may follow the operation, from the distension of the sphincter of the bladder, but in a few weeks this will, generally, cease."

The mode of carrying out the principle of combined dilatation and incision which I have adopted differs, in some respects, from that recommended by those distinguished surgeons, and unquestionably has proved completely successful in the cases in which it has been employed by Mr. Cusack and myself.

The instrument I employ (represented in the accompanying engraving) affords a convenient means of applying to the female urethra the combined action of cutting and dilating in such a way, that just so much of the urethra, *and no more*, shall be cut as will put it in a condition to be dilated to the required extent, without subjecting it to laceration. The instrument is to be used in the following manner. The apex of the cone is to be introduced into the urethra, and pushed gently forward until it meets with some obstruction from the tightness of the urethra; the cutting blade is then



to be raised to the extent of one-eighth of an inch by pressing the thumb on the stop at the heel of the instrument, and the dilator is to be slowly pushed forward. Those fibres only which, undivided, would resist the dilatation, give way before the edge of the knife*; the dilatation then advances unchecked until it opens a sufficient passage for the finger into the bladder; the finger is then withdrawn, and replaced by the forceps, when the stone, or extraneous substance, is extracted in the usual manner. By this mode of proceeding I lately succeeded in extracting a stone nearly an inch and a half in diameter, formed on a double wire hair pin, three inches and a half in length. The calculous matter was removed in fragments as they separated from the pin; the pin itself, one limb of which was bent, and firmly imbedded in the neck of the bladder, was not discovered at the first operation, but was removed by a second, which was performed two or three weeks afterwards; on both occasions I was assisted by Mr. Cusack. Six weeks after the last operation I had an opportunity of ascertaining *to a certainty* that the young lady was able to retain her urine for eight hours together. Mr. Cusack operated with the same instrument on a young woman in Steevens' Hospital, for the removal of a metallic needle-case, three inches and a half long. It was necessary before introducing the forceps to pass the finger, and use considerable efforts to dislodge the extraneous substance, which had become impacted in the lower fundus of the bladder: nevertheless, the woman left the hospital eight or ten days after the operation, having perfectly recovered the retentive power of the bladder.

The effect of The Cutting Dilator, used as above described, is to cut only the external orifice of the urethra, and about one inch and a half of the internal membrane lying next to it, while the orifice of the bladder remains uncut; in this respect its action is different from that of the *bistourie caché*, which from its construction, must, in the first place, cut the neck of the bladder, however slightly, and afterwards incise the internal membrane of the urethra through its whole length. In Mr. Liston's method, the neck of the bladder is slightly notched on both sides, while the orifice of the urethra is only dilated by the screw dilators; time and experience must determine which of these three methods is the least likely to be succeeded by incontinence of urine.

Dublin Quarterly Journal, Feb., 1847, *p.* 2.

149.—*Bilateral Operation of Lithotomy.*—By John C. Warren, M.D., Boston, U.S.—[Dr. John C. Warren relates an interesting case of this description---a boy named Matthew Ryan, æt. fourteen, who had been afflicted with symptoms of stone in the bladder for several years. He was small and not well developed. The stone might easily be felt, but the bladder was very much contracted. Lithotrity was inadmissible on account of the small bladder and narrow urethra. Lithotomy was therefore decided upon, and the boy was prepared in the usual way till the day previous to the operation.]

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* This instrument, the dilating part of which is a modification of that invented by Mr. Weiss, is four and a-half inches long in the conical dilating portion, and an inch and three-fourths in circumference at its thickest part. The sides are made of whalebone, and the knife-blade, which has been added by Sir P. Crampton, lies quite concealed within the upper side, except when raised by the spring attached to the stop. As this stop is a screw, the portion of it below the spring can be increased or diminished at pleasure, so as to regulate the extent of blade to be exposed.—Ed. Dub. Journal.

The patient being placed on the table, his hands and feet were bound together, and the rectum was examined, to ascertain if it were free from fæces. A staff was then introduced, and the stone immediately struck: the instrument was then put into the hands of an assistant. The skin of the perinæum being made tense by the thumb and forefinger of the left hand, an incision of two inches was carried across the perinæum, midway between the scrotum and the anus, of a crescentic form, the points of the crescent looking towards the tuberosities of the ischia. The superficial fascia was next divided. The assistant was then requested to draw the instrument upwards, or towards the symphysis pubis, to make room between the urethra and rectum. By two cuts, the membranous part of the urethra was exposed behind the bulb, and laid open: the bulb itself not being uncovèred.

A straight probed bistoury, having a blade two inches long, was then pushed into the groove in the staff, and the operator was about to pass it into the bladder, when the patient drew back, and thus separated the two instruments. By means of the forefinger of the left hand passed into the groove of the staff, the probe-pointed knife was readily restored to its situation in the groove, and then the operator taking the handle of the staff in his left hand, and bringing it downwards, the knife passed along the groove into the bladder. No urine was discharged then, or at any period of the operation, except when the staff was introduced, at which time the little that had been secreted made its escape. Then, striking the stone with the end of the probe-pointed knife, to ascertain its entrance into the bladder, the staff was withdrawn.

The forefinger of the left hand was next passed along the back of the knife, and served to guide its incision, which was made very small, at first on the left, and then on the right side of the prostate. The forefinger following the knife was applied in search of the stone, but not coming in immediate contact with it, and knowing the stone could be instantly found by the rectum, I introduced the finger into the intestine, and pushed up the stone towards the wound. Having enlarged the opening with a common knife, I pushed the stone directly through the wound thus made, and extracted it without the aid of the forceps. The opening of the bladder was, of course, the smallest possible, and barely allowed the stone to pass through. The loss of blood was very small: the operation ended, the patient was carried to his bed.

In the afternoon he had some pain, and, being much accustomed to the use of opium, thirty drops of M. Munn's Elixir were given to relieve him. In the evening, five ounces of blood were drawn from the arm, as a preventive of inflammation; a precautionary measure I am in the habit of adopting after capital operations, in which there has been no great loss of blood.

On the next day, the boy was quite comfortable. A pledget introduced into the wound after the operation having come out, another was passed to the bottom of the wound; the urine having issued as much by the penis as by the wound.

Remarks.—The result of this case confirms the favourable opinion made by the preceding. The simplicity of the operation, the comparatively small pain from the incisions, the facility of seizing and removing the stone, the very slight loss of blood, and the absence of any severe consecutive symptoms, are facts which concur in giving a favourable impression as to this mode of operating. Whether the results of a considerable number of cases would be equally favourable, cannot be determined but by a long series of trials.

Medical Gazette, Nov. 6, 1847, *p* 795.

150.—*Case of Lithotomy in the Female.*---By Professor Syme.—Mrs. ——, aged forty-five, from Wick, was admitted upon the 10th of June, on account of stone in the bladder, from which she had suffered the usual symptoms for ten months. On the 12th, after dilating the urethra by the successive introduction of bougies gradually increased in size, I passed my finger into the bladder, and divided the ring at its orifice outwards and downwards by means of a straight bistoury. This incision was of very small extent, hardly exceeding the breadth of the blade, which was rather narrow. The textures then readily yielded, so as to allow me, without the use of violence, to introduce the forceps, and extract a stone about the size of a chesnut: not the slightest inconvenience followed the operation. The patient regained the power of retaining urine in the course of eight days, and returned home quite well on the 28th.

Lithotomy in the female affords an instructive illustration of the principle on which this operation may be performed with safety on the male. The parts are nearly in the same state, so far as the obstacles to extraction are concerned, as those of the male after the incision of the perineum has been completed, and as if the prostate were also completely divided. However much the facility and rapidity of the operation may be promoted by cutting instead of tearing the textures thus far, it does not appear that the choice of these means materially affects the patient's chance of recovery, provided the opening from the skin to the prostate be made sufficiently free. But, in both sexes, there is still an obstacle remaining, which admits of ready removal by incision, and cannot be overcome by tearing without almost certain death. This is the sensitive ring which surrounds the neck of the bladder, at the base of the prostate in the male, and at the corresponding part in the female. Bilateral and extensive incisions are altogether useless and improper, since the space required is obtained not directly through the extent of parts cut, but by the yielding of the textures through tearing and separation of their fibres, after the unyielding ring has been divided.

In dilating the urethra, to accomplish any of the purposes which require its capacity to be temporarily increased, I find no means so convenient as the introduction of bougies. This may be done in rapid succession, so as to obtain the object in a few minutes, without causing any pain whatever.—*Monthly Journal of Medical Science.*

Medical Gazette, Nov. 6, 1846, *p.* 821.

151.—*Case of Calculus Vesicæ.*—By HENRY CRAWFORD Esq.—[Mr. C. relates a case of the above description. S. S., æt. 46, mother of thirteen children, was admitted into Canterbury hospital, Oct. 24th, 1845. She complained of distressing symptoms of a large heavy substance falling against the orifice of the urethra, causing great restlessness and a constant desire to relieve the bladder.

On the introduction of a sound, a large calculus was discovered. She was ordered remedies to relieve the irritability of the bladder, and in a few days its neck was gradually dilated by Weiss's dilator until the finger could be passed and the stone felt, which was easily grasped by a lithotomy forceps; but the distance to which the handles were separated, made it obvious that other steps were necessary to accomplish the extraction.]

Mr. Crawford felt inclined to adopt the operation advised by Mr. Liston under such circumstances, viz. to notch the fibres of the sphincter vesicæ on each side, afterwards employing the dilator with the view of obtaining room to extract the foreign body entire. However, after consultation with his colleagues, it was agreed to avoid the use of cutting instruments altogether, and to reduce the size of the stone by lithotrity. Accordingly, on Friday, Oct. 31st, he proceeded to inject the bladder, which could only be imperfectly effected, and with considerable pain, on account of the irritable condition of that organ. Upon withdrawing the catheter, he introduced Weiss's screw lithotrite, with which the stone was easily seized and crushed, its diameter being, according to the index on the blade of the instrument, about two inches and a quarter; several large fragments were at the same time comminuted with but little pain to the patient. During several following days the fragments passed off freely: she expressed herself much relieved of the obstruction to micturition; the urine was longer retained, of a more healthy appearance, with less of mucous deposit or alkaline smell. Encouraged by these favourable appearances, and aware that much remained to be done before the bladder could be cleared, Mr. Crawford renewed his operations on the succeeding Monday, Tuesday, and Wednesday, crushing many fragments, and removing a portion of the detritus by the use of the screw scoop. The pain chiefly complained of on these occasions was that arising from the injection of the bladder. Mr. C. desired that all that passed should be preserved, but this was not done, as much of the detritus mingled with the urinary deposit in the form of impalpable powder, and she stated large pieces escaped from the urethra during the act of defæcation. Some large fragments which were collected showed the composition of the calculus to be triple phosphate, with here and there a layer of the lithates.

On Friday, she complained that the passage of urine was again obstructed, and a large fragment was felt by the catheter, presenting at the internal orifice of the urethra. Mr. C. endeavoured to push this back into the cavity of the bladder, in order to seize it with the lithotrope; but all his efforts were ineffectual. He then thought it would be possible, after moderately dilating the urethra, to remove this fragment with the lithotomy forceps, as he had attempted to do with the entire calculus in the first instance; this he put in practice on Saturday morning, and persevered for several minutes in gentle but firm attempts at extraction: the proceeding caused considerable pain, and the operator was at length reluctantly compelled to let go his hold. On the Monday following she was very sick, which she attributed to the fright caused by an accident which had been brought into the ward on the previous day. Vomiting of all ingesta succeeded, with pain in the epigastrium, which quickly extended over the whole abdomen, and she sank, with all the symptoms of peritonitis, on Saturday, November 15th.

[On a post-mortem examination the walls of the bladder were found much thickened; its cavity contracted; its mucous membrane of a dark venous red colour; and it contained one flattened irregular-shaped portion of stone, weighing three drachms, but no other fragments or detritus.

Mr. C. inclines to the belief that had Mr. Liston's operation been adopted fatal consequences would have followed the great degree of dilatation required, and the permanent incontinence of urine. The trifling amount of pain occasioned by crushing the stone, and the remarkable manner in which the bladder rid itself of so many fragments and detritus, seem to point out that nature is an auxiliary to these means. The editor of the Medical Gazette adds,—]

We regard the above case as another illustration of the almost inevitable danger which attends the operation of lithotrity in cases where there is either confirmed organic disease, or severe irritation, of the bladder. The value of the case would have been much enhanced had reference been made to the state of the kidneys and other abdominal viscera, as the occurrence of fatal inflammations after operations, and especially in consequence of lithotomy and lithotrity, certainly appears to be very frequently determined by diseased condition of those organs.

Medical Gazette, Nov. 6, 1846, *p.* 819.

152.—*On the Decomposition of Calculi by Galvanism.*—By M. Donovan, Esq., M.R.I.A.—[Mr. Donovan observes that Orioli, an Italian of great eminence, and Dr. Harle, of Norwich, first conceived the idea of resolving a calculus in the bladder, by means of a current of galvanism transmitted down a metallic sound, varnished except at the point. He says:]

M. Bouryes des Mortiere dissolved a calculus, out of the body, weighing one grain, perfectly, in twenty-four hours, by galvanism. But MM. Prévost and J. Dumas have gone far towards proving the possibility of successfully employing galvanism as a means of destroying a calculus in the bladder A fusible human calculus, placed in water was submitted to the action of 120 pairs of plates during twelve hours. The bases and the phosphoric acid were liberated at their respective poles, but, owing to the nature of the arrangement, they reunited in a fine powder. The weight in this period was reduced by twelve grains. Other trials were made during sixteen hours, and at the end of this time the calculus was reduced to a mass so friable that the slightest pressure reduced it to little crystalline grains, which could easily pass through the urethra.

MM. Prevost and Dumas conceive that it is almost always possible to introduce into the bladder two conductors which shall be spread out at the extremity by means of a slight spring, so that they may touch the calculus by their internal surface, which, in this part, is deprived of its insulating envelope. The calculus would be thus decomposed without injury to the bladder, since the current takes the shortest distance between the two poles.

To prove that the galvanic process may take place in the bladder without injury, they introduced a properly prepared pair of conductors through the urethra of a dog into the bladder, and connected them with a pile of 135 pairs, acted on by nitro-sulphuric acid. They remarked with much satisfaction that the dog was not discoverably inconvenienced while the bladder was distended with injections of lukewarm water; yet this same apparatus was capable of decomposing water with great energy, and furnishing torrents of gas.

A fusible calculus was then fixed to a sound between the two platinum conductors, and the whole was introduced into the bladder of a large bitch; lukewarm water was injected, and the conductors were put in connexion with all the troughs which composed their battery. After some slight movements, the animal was quiet, and endured the galvanic action for an hour. The calculus, when withdrawn, shewed unequivocal traces of decomposition. The same process was repeated morning and night for six days; but the calculus had now become too friable to permit further repetition, and had lost weight in the same ratio as the former one. The animal, after a few days' repose, was killed, when it was found that the bladder was in its natural state.

These experiments, it must be confessed, render it probable that this mode of removing calculi from the bladder may one day or other take the place of the two operations at present in use, except when the calculus consists of uric acid, which is, unfortunately, too commonly the case. The editors of the *Annales de Chimie* subjoin to this paper an observation that nitrate of potash, dissolved in the water injected into the bladder, renders the decomposition of hard, compact phosphates as easy as that of the porous kinds. They also satisfied themselves that the bladder is not injured during the action of the pile; and they think that instruments may easily be contrived for determining the nature of the calculus on which it is proposed to operate.

Dublin Quart. Journal of Med. Science, May, 1847, *p*. 303.

153.—ON THE TREATMENT OF STRICTURE BY HYDRAULIC DILATATION.

By J. Goodman, Esq., Broughton.

[A patient applied to Mr. Goodman, afflicted with oldstanding stricture of the urethra, in front of the bulb. For some time the passage had been so narrowed as only to admit the passage of a small catgut bougie. On the day on which he presented himself he had taken some beer, and in consequence, as he supposed, was unable to pass a drop of urine; the bladder was distended, and he had considerable pain, and a constant desire to micturate; no catheter or bougie could be passed. Mr. Goodman says,]

In this emergency, (one by no means uncommon,) the forcible application of a warm-water injection suggested itself. There was the soothing and spasm-subduing quality of the warm fluid,—the probable insinuating and permeative quality of a steadily increasing column, adapted for every condition, form, size, and situation of stricture; and there was also the gradually and slowly dilative power of hydraulic pressure, which, if sufficient force could be employed to enable it to perforate the contracted portion of the urethra without rupturing any of its walls, might be brought to bear with any amount of force which can be required.

With regard to the capability of perforation in an already formed channel, however reduced in size, the difficulty seemed to vanish when I remembered having heard it stated that aqueous fluid can be forced through even the pores of iron itself when under immense pressure. It was borne in mind also, that this method of removing obstructions, (although of a very different kind,) and of effecting a passage, is employed in all the other outlets of the human body—for instance, the ductus lachrymalis, meatus auditorius externus, Eustachian tube, &c., (although the fluid employed in the last named is not exactly the same, yet the force is obtained by the same instrument.)

After introducing a gum catheter as far as the stricture, which was well secured by a band of tape, and a compress upon the penis to prevent escape, a syringeful of warm water was injected with some force, and was found to flow with tolerable ease. The patient exclaimed, "It passes." On removing the apparatus, the patient micturated immediately in a stream about the size of a crow-quill.

After some persuasion, rendered necessary partly by the satisfaction ensuing from being able to micturate, and partly from the slight pain endured during the injection, the apparatus was again connected as before. After this injection, which flowed still more readily, and the removal of the instrument and bandage, the stream was found to be considerably augmented. A pint of urine was passed in a very short space, and the patient went away completely relieved and well satisfied.

A question might arise, that if watery fluid is so capable of perforating and dilating the stricture, why does not the urine itself, with all the efforts made use of by the patient for emptying the bladder, produce the effect desired as readily as it can be accomplished by external means of the same nature?

To answer this question, the muscular power of the bladder was tested in the following manner:—A tube, filled with water, to which was previously joined a smaller one of glass, containing mercury, and so arranged as to exhibit the rise of the mercury in ratio with the existing pressure, was placed in communication with the urethra of a healthy individual, and secured by bandage and compress as before. He was then desired to make his most strenuous efforts to pass water. On so doing, the mercury in the small tube was found to rise only to the height of four or five inches, showing that the contractile force of the muscular coat of the bladder, aided by the abdominal muscles, is only equal to a column of water of four orfive feet.

This small column, when compared with the effects capable of being produced by hand,—in the common lifting pump, the fire engine, and more especially by the hydraulic press,—readily evince a good reason why an attempt might be made to force a passage through an obstruction which the muscular power of the bladder was incapable of effecting.

With such propitious results on the first trial of this method, I anticipate the relief of patients at all times under like circumstances; and even, perhaps, in those extreme cases where perforation of the bladder might otherwise be suggested, as well as in cases of spasmodic stricture.

And it may not be improbable that the cure of stricture itself may be somewhat facilitated by the employment of this remedial agent, unless it be found that the power of dilatation by the syringe is reduced considerably, when free communication is established with the feeble walls of the bladder.

It is not improbable, that in practice the injection from the extremity of the catheter may be found to serve the twofold purpose also of directing and introducing, as well as dilating, the orifice of the stricture, for the passage of the catheter itself, during the flow of the injection.

Lancet, March 13, 1847, *p.* 277.

154.—*Opium in Stricture of the Urethra.*—[There is a case related in the reports of the Ipswich Medical Society, of an old man with obstinate stricture, and who had passed no urine from the Saturday to the Tuesday, when it was determined to puncture the bladder. But having taken two grains of opium, and repeated the dose in an hour, the spasms relaxed and the operation was not required.]

Provincial Medical and Surgical Journal, Dec. 16, 1846, *p.* 603.

155.—*On Setons in Stricture, &c.*—By G. D. Dermott, Esq.—[Mr. Dermott has for some time believed that a seton *in perineo*, would be very useful in stricture of the urethra, and also in prostatic disease, and catarrhus vesicæ, but has not yet been able to try it.]

Medical Times, Dec. 5, 1846, *p.* 194.

156.—ON ABSCESS IN THE PERINEUM.

By Sir B. Brodie, Bart., F.R.S., &c.

Abscesses may occur in the perineum attended with disease of the urinary organs, in the cellular membrane, or in any other part.

Abscesses in the perineum are generally connected with the prostate gland, and occasionally with the bladder. The most common circumstances under which these abscesses form are when the patient labours under gonorrhœa. Thus, a patient has a profuse gonorrhœal discharge, which at first diminishes little by little, till it disappears entirely; this may happen in consequence of his using strong injections, but it often occurs in that stage when surgeons do not recommend injections, as in the inflammatory stage. The discharge suddenly ceases, then the patient complains of pain in the urethra, and experiences difficulty in making water, and particularly when in the commencement, from the pressure at the neck of the bladder, and the water comes away in a diminished stream. There is also pain felt in the back, groin, pubes, and sense of weight in the perineum. The stream is very small, and sometimes there is complete retention. The patient at last feels fulness in the perineum, which increases very much, and which depends on the presence of matter which forms deep in the perineum. If this is left to itself it breaks, perhaps, in the perineum or in the neck of the bladder, or sometimes, instead of coming down to the perineum, it makes its way back to the rectum and bursts in front of the anus. Now, you will observe that in this case all the painful symptoms indicate inflammation of the neck of the bladder; I believe there is a translation of the inflammation from the urethra to the prostate gland or cellular membrane covering it. It may be that this inflammation is not only in the prostate itself, but in the cellular membrane covering it, in the same manner as you sometimes find suppuration about lymphatic glands. There is only one circumstance that would lead us to suspect that abscesses of the perineum have their origin in another way than what I have stated; it is that when the abscess bursts, upon the patient making water, a small quantity of urine comes away from the perineal opening. When you are called to a patient under these circumstances of abscess after stoppage of the gonorhœal discharge, and there is inflammation of the neck of the bladder, it is very important that you should stop the progress of this inflammation of the bladder, to prevent its going on to suppuration. The patient should lose blood by the application of leeches to the perineum, or by cupping; but employ none who is not a dexterous cupper, for it is not every cupper who can do it in this part successfully, though in London there are plenty who can do it very well. The patient may lose from ℥v. to ℥xiv. of blood, according to the intensity of the symptoms and the strength of his constitution. Give calomel and opium, so as to place the patient under the influence of mercury, as in the treatment of inflammation in general—as, for instance, of the iris; two or three grains of calomel and half a grain of opium, or more; endeavour to get the gums affected as soon as possible, until there is time for the cupping to have effect. You may relieve the patient by means of an opiate clyster; I sometimes inject ʒj. of tinct. of opium and ℥iij. of starch. The opium tends to allay the inflammation as well as the pain. A person sometimes cannot empty the bladder, and a straining is kept up from the morbid sensibility of the bladder, and this straining aggravates the inflammation. Now, by administering opium you allay the pain which causes him to strain, and the consequences of the straining cease. This may be illustrated by another case, as, for instance, when a patient has inflammation of the knee, by a frequent rubbing of the knee he keeps up a constant state of inflammation; and, if you advise him not to rub this knee, he will, by refraining, do much to allay the inflammation. Another thing is necessary in some instances—the patient's urine must be drawn off with a catheter. For this purpose you must use a small catheter, as a large one will irritate the urethra, and increase the inflammation in the neck of the bladder. A small gum catheter is best, and far superior to the metallic, which does not yield to the parts like the other; use, then, a small elastic catheter, and even when there is not absolute retention of urine, as when the patient is constantly straining to make water, because he cannot entirely empty the bladder, but at every time leaves some behind. This residuary quantity of urine keeps up a constant irritation, which the use of the small gum catheter will prevent; it may be used for this purpose two or three times in the day. I remember one gentleman who had inflammation of the neck of the bladder, and by this mode of treatment, with the use of the catheter, in three hours the inflammation subsided without the formation of an abscess. But this catheter you must employ with a light hand, and as gently as possible, as the inflamed parts are very much in danger of injury where the greatest care is not taken. Supposing the disease is in an advanced stage, and you have hardness and fulness of the perineum, and you examine the perineum and can feel no matter there, but there is in one spot a more fluctuating feeling than elsewhere, and in some cases a rigor, or perhaps more than one. But the mere circumstance of hardness and increase in size of the parts is sufficient to show that there is a deep-seated abscess; and the matter is situated behind the triangular ligament, which prevents its coming to the surface, and hinders you from feeling the fluctuation of matter. If you wait till the fluctuation becomes distinct, you may wait till the abscess has produced serious injury, by dissecting its way among the neighbouring textures. When you have hardness in the perineum in such a case, you must introduce the lancet in that part in which the hardness is most distinct; but the lancet will be required to enter very deep, even up to the shoulders if the lancet is a common one, before you can reach the seat of the matter; this is especially the case when your patient is fat, so that the lancet will barely reach it. However, you may introduce the lancet with the greatest confidence, there being nothing to injure; if you introduce it to an insufficient depth, you do no good; and if you introduce it to a proper depth, the matter comes away, and your end is gained. When no matter has been felt externally, I have sometimes let out ℥ij. or ℥iij. of pus, by this use of the lancet, from under the deep fasciæ.

In some cases you find that the abscess becomes fistulous; a little urine drips out through the opening in the perineum, only a few drops perhaps at first, the flowing of these few drops will prevent the abscess from healing, and make it a fistulous abscess; but the urethra contracts in the membranous part, and all you have to do is to introduce a bougie or sound every now and then into the bladder; the contraction is not a permanent one, and there is no difficulty in doing this; you may introduce a full-sized sound, almost in the first instance; should this, however, distress your patient, you may use a small one at first, and increase the size by degrees—using it once in two or three days. By this means the urine will be brought out at its proper canal, instead of the unnatural opening, which soon heals. In the greater number of instances the removal of the cause will be followed by a cessation of the effect; the restorative powers of nature will bring the injured parts into their proper condition. You thus restore the urethra, which was narrower than natural from inflammation, to its proper diameter, and draw away the urine, the passage of which into the perineum prevents the sinus from healing.

Abscesses of the perineum are often old strictures of the urethra. The patient's stricture prevents his making water in a full stream, and the urine is pressed against the back part of the urethra; this constantly occurring, at last the part ulcerates. At first the hole is not much bigger than a pin, through which a little drop of urine escapes without pain at first, and, even when the patient makes water without any great difficulty, then ulceration takes place generally.

A single drop will escape into the cellular membrane, whilst the great part will go along the natural passage, and half a drop is sufficient to cause inflammation of this membrane. A drop of water or mucus might not matter, but it is different with urine. Where the drop proceeds, inflammation of the cellular membrane is set up, and the patient complains of pain in the perineum and pubes; by-and-by there is hardness in the perineum, which increases with much swelling; and if this disease is left, there is increased swelling, extending to the nates: this swelling is œdematous; rigors follow, and there is great constitutional disturbance. The swelling goes on till the skin breaks, and pus, pretty healthy, is discharged, and the swelling subsides and the œdema disappears. The next time the patient makes water, he does so much more easily. Frequently, also, during the formation of matter, there have been rigors, and the constitutional disturbance may have been great, but both of them subside as soon as the abscess gives way. At first nothing comes from the abscess but pus, frequently healthy pus; but, however, after a time, urine is found to pass through the orifice whenever the patient makes water—the quantity depending on the size of the opening of the urethra, The flow of urine through the perineal opening keeps the parts tender and swollen, and the sides become hard and callous, and the edges project. This is called fistula in perineo. Sometimes only one fistula, and sometimes there are several, one in one place, another in another, as in old cases of stricture; these old sinuses burrow under the skin and form sinuses in the nates. These fistulas are very distressing to a patient, and every now and then the opening gets stopped by the great constitutional disturbance, But the patient, under these circumstances, is less liable to a retention of urine than before the formation of this unnatural opening, for, if the urine be restricted in the bladder, it can yet find its way through the opening of the fistula, and thus retention will be prevented.

I have described this disease as connected with stricture in its simplest form, but sometimes it is much more complicated. You are called to a patient with an old stricture of the urethra, and you find symptoms of matter forming in the perineum, hardness and swelling; but, besides these symptoms, these is very great constitutional disturbance. You find a small quick pulse, dry black tongue, hot skin, sordes of the teeth, and the patient looks like one dying of putrid fever. These symptoms are caused by the generation of carburetted hydrogen and sulphuretted hydrogen from the putrid matter, resulting from the mixture of urine with pus; and patients have frequently died of the poisonous gases thus absorbed into the system. This is a very distressing case, but you may generally relieve it. In cases of stricture of the urethra, the treatment of abscess is different in one respect from those in which the abscess arises from gonorrhœa: in these last you may prevent the formation of matter, but in the other case you cannot prevent it, indeed you should not, and by applying leeches and exhibiting mercury you only do harm; you may retard this formation of matter, and thus prolong the case, but you cannot prevent it. Rather let the patient foment the parts, let him use the warm bath, and do all you can to promote suppuration; let him sit over a bidet, and sponge the parts three or four times in a day. Then, as soon as the abscess is well advanced, let out the matter with a lancet, especially if there are symptoms of presence of putrid matter, without a moment's delay: this has been done over and over again. Patients have been brought into this hospital at death's door, with hardness in the perineum, from presence of an old abscess, and all the symptoms of dying from putrid fever; I have run in a scalpel and found matter—I never failed; the moment the matter has been let out, all these symptoms have subsided: then carburetted and sulphuretted hydrogen gases—though poisonous in the lungs and blood, like prussic acid—evaporated very readily, so that when the patient does not die he recovers very rapidly.

Now, there is another case of perineal abscess connected with strictures of the urethra, when the stricture is of old standing and there is retention of urine. When you see a case of this description, you endeavour to pass a catheter, sound, or catgut bougie, but nothing penetrates; you find that patient ill, with something like typhoid symptoms; you may suspect the matter is forming in the perineum. Examine that quarter, and if you find hardness do not lose time, but make a deep incision in the perineum with the double-edged scalpel. You may have your patient in the same position as you would for the operation of lithotomy, and you will come down to a deep abscess; as soon as the matter contained in this is let out, you may directly take a good-sized catheter and introduce it into the bladder. These cases of abscess in the perineum, with typhoid symptoms or retention of urine, or both combined, require immediate attention; their urgency will not allow you to go home and think about the case. or to consult with another upon it; while you were so doing the patient might die; it is, therefore, of the greatest importance that you should bear in mind what I have just said, in order that you may have a fund of knowledge available at any moment. The treatment of these abscesses, then, in the first instance, is as simple as possible, namely, abscesses in the perineum, connected with old strictures, require to be opened, and, if not urgent, you may let it come near the skin before you make an opening, but if it is urgent, however deep, you must make it directly. But I told you that there was a communication between the urethra and abscess: sometimes the opening is small, and only a drop of urine can get into the abscess; and sometimes the opening is large, and the patient will make as much or more water through the orifice in the perineum, as through the natural passage. It was at one time thought that these fistulæ should be laid open like fistula *in ano.* Now, there is a special reason for opening the fistula *in ano*, which I need not now explain, as you meet with it in the regular course of lectures; but this special reason does not exist here. You cannot here perform that operation, for obvious anatomical reasons. It was formerly supposed that all fistulas required to be laid open, but, except those in the rectum, there is no fistula requiring to be laid open unless there is a lodgment of matter. The first thing required for the healing is, that matter should come out as fast as it is generated, whether in one part of the body or another. In some cases of fistula in perineo it is necessary to make an opening in order that matter lodged in some *cul de sac* may have vent. If the stricture is much contracted, and the opening into the perineum is large, much urine gets into it, and is diverted out of its natural channel; you then introduce the bougie or sound, and dilate the stricture half its natural diameter; and, generally, you find the fistula will soon get quite well, without additional treatment. A patient has said to me, "You have not looked at the opening in the perineum." I have replied, "Never mind that at present." By-and-by, when the treatment I have described had been pursued a little while, I have said, "How are the openings in the perineum?" and the reply was, "Oh, they have closed and are well." You may, however, now and then, when the opening into the perineum from the urethra is large, have a case in which the fistula will not get well so easily, and, though you employ a good-sized catheter, the water gets into the perineal opening. By introducing a probe, armed with nitrate of silver, into the sac, at the same time touching the outer side with caustic potash, the latter prevents healing, while the former promotes it. You may arm the probe by taking melted nitrate of silver and dipping your probe in it. I do not recommend this plan now. I used to keep the patient in bed, and draw off the urine with a gum catheter; but I found that a part of the urine escaped by the side of the catheter; I found that it does harm as well as good if left in: it produces suppuration, and a good deal of matter escapes into the urethra. Rather let the patient learn to use it himself, or let him pass a sound—no resistance will be met with; do not pass a gum catheter, it is not firm, and gets entangled in the orifice of the fistula. A sound may be inserted into the bladder without going into the orifice of the fistula; let him use it two or three times a-day, and in the course of time, in one, sometimes in two, or, perhaps, twelve months, the opening into the perineum will have closed. I have known this to happen, when fully half the urine has been voided by the perineal opening instead of the natural channel.

There is one kind of perineal abscess, sometimes met with after hard strictures of the urethra, with but slight contraction. A patient says, "Here is a substance like a *horsebean* in the perineum." This will go on for years together, with pain on micturition, and part rather tender; in this case there has been at first a small ulcer of the urethra, by which a drop of the urine has got into the cellular membrane, bringing on inflammation, and causing the hard lump, and matter is generated. This matter does not find its way directly out by the urethra, but goes backwards and then forwards, and continues to discharge for a long time. The treatment for the cure of this disease requires you to place your patient on the end of the bed, as for lithotomy; plunge an abscess lancet, or, what is better, the double-edged scalpel, into the middle of the perineum, till you come to the abscess, then introduce a piece of lint into the opening to prevent its closing, and let it remain for two or three days; then take it out and let the patient make water; observe if any urine flows through the opening; this will most likely now be found closed. It was a blind fistula; but by this operation you have made an external opening; it is now like a common fistula, and to be treated as such. But if the urine does not flow through it, it shows that you have not exactly hit the tumour; under these circumstances I have taken a small narrow piece of caustic potash and introduced it into the opening, where it makes a slough, and stops much of the irritation round the abscess. After the slough comes away the cavity of the abscess is exposed; and when the water comes out you cure it by means of a bougie.

Medical Times, Jan. 2, 1847, p. 255.

157.—ON A NEW OPERATION FOR VESICO-VAGINAL FISTULA

By M. Jobert.

M. Jobert has proposed and executed successfully a new plan for the cure of this distressing malady. We have formerly noticed the autoplastic operations performed by this surgeon for the purpose of obliterating vesico-vaginal fistulæ, to the best means of curing which he has devoted much attention. The occlusion of such fistulæ by means of autoplastic operations is necessarily attended with great difficulty, and in the hands of most surgeons, would probably fail in the great majority of instances.

The method now proposed by M. Jobert is termed "*autoplastic par glissement.*" It consists in loosening the connexions of the posterior wall of the bladder by means of an incision made through the mucous membrane across the anterior part of the cervix uteri. In the words of M. Jobert—

"This operation consists in making a semicircular incision across the anterior part of the cervix uteri, at the point where the latter is joined by the vagina. The dissection is made from below upwards, and the edge of the bistoury is kept directed towards the cervix, so as to protect the bladder from danger. Immediately after this incision and the dissection, which easily isolates the base of the bladder, retraction of the anterior portion of the vagina takes place, and displacement forwards of the posterior region of the bladder. The apposition and re-union of the edges of the fistula then become easy; and thus the reparation of a very large breach may be accomplished."

The edges of the fistula, which are there found to approximate each other much more easily, are pared, and united by suture.—*Revue Medico-Chirurgicale de Paris*, January 1847.

M. Jobert has operated in this way in three cases of vesico-vaginal fistula with perfect success: and, in two of these cases, the usual method by cauterization had been previously found unavailing. A catheter is to be retained permanently in the urethra for the first two or three days, and is afterwards to be very frequently introduced to prevent any accumulation of urine in the cavity of the bladder.

The operation must be one of extreme nicety, and difficulty of execution. Great danger appears to be incurred on the one hand of wounding the posterior wall of the bladder, and on the other hand of approaching too nearly, in the incision, the fold of peritoneum lying between the uterus and bladder. Even with the precautionary measure of the use of the catheter, the risk of the approximated edges of the fistula being bathed by the urine must be great.

The operation appears, however, to have succeeded well in the hands of M. Jobert; and any proposal which may tend to the relief of these distressing and unmanageable cases, must be looked upon as of no small importance.

Monthly Journal of Medical Science, April 1847, *p.* 777.

158.—*Retention of Urine Treated by Galvanism.*—By M. Donovan, Esq.—[Mr. Donovan gives the case of a lady who, after delivery could not evacuate her bladder. The catheter had to be used thrice a day, and Drs. Radford and Goodwin employed all the usual remedies for a fortnight, when it was decided to try galvanism; the first application was successful.]

Dublin Quarterly Journal, May, 1847, *p.* 304.

159—ON THE TREATMENT OF VARICOCELE BY PRESSURE.

By T. B. Curling, Esq., Assistant-Surgeon to the London Hospital.

[In Retrospect, Vol. x. p. 208, we gave a short notice of Mr. Curling's method of treating varicocele by pressing on the spermatic cord as it passes through the external abdominal ring by means of what he calls the *moc-main lever truss.* The pad of the truss is stuffed with moc-main, the produce of the silk cotton tree, a substance of remarkable lightness and elasticity allowing of the application of greater force than could otherwise be tolerated.

The pressure of the moc-main truss, in this mode of treatment, must be of such a degree, as will relieve the dilated veins from the weight of the column of blood above, without obstructing the spermatic artery, or being inconvenient from its pain. The use of the truss should be continued until the coats of the vessels are restored to their natural strength and thickness. In a recent paper on this subject, Mr. Curling says,—]

In estimating the value of the treatment by pressure, in effecting a cure of varicocele, it must not be overlooked, that although the veins may have recovered their proper size and tone, a return of the complaint would in most cases be readily induced by the causes ordinarily producing distention of the spermatic veins, and that unless the patient avoids these causes, such as constipated bowels, straining efforts, and prolonged fatigue, he may be disappointed in deriving permanent benefit from the treatment. For this reason, the continued use of the truss, after all symptoms of the affection are removed, may often be advisable as a matter of security, more especially in persons who are obliged to lead an active life, or who have naturally a feeble constitution or impaired health.

There are very few cases of varicocele occurring in early life in which the common suspender is sufficient to prevent the increase of the complaint and the suffering attending it In the cases which I have related, the painful symptoms of the disease could not be remedied by this mode of supporting the parts, and the patients were consequently anxious for further assistance. There is, however, another class of cases in which the application of pressure is capable of giving considerable relief, though not of curing the disease. They are cases met with at a somewhat advanced period of life, in which the varicocele is considerably developed, the plexus of dilated veins, though of gradual formation, being of large size and long standing, but not productive of greater inconvenience than a sense of weight and aching after fatigue, and when the part is deprived of support. The uneasiness in these cases may generally be remedied by the use of a suspender, but this seldom succeeds in preventing the progressive increase of the varicocele, which occasions a gradual wasting of the testis, and sometimes assumes a painful character. The application of pressure, however, not only removes the slight uneasiness which exists when the veins are pendent, but also counteracts the tendency to further dilatation, though the enlargement is too great to admit of the vessels being reduced to their former size. I could, if necessary, adduce several cases in which pressure was resorted to, with a beneficial effect, in checking the growth of large varicoceles.

From these observations it will appear that I consider the treatment by pressure, to be applicable either for the cure or relief of the majority of cases of varicocele occurring in practice. Certainly in all those cases in which tolerably firm pressure, with the fingers, at the abdominal ring, removes the sense of weight and uneasiness along the cord, this plan may be tried with every prospect of a beneficial result; and its simplicity, freedom from all risk, and efficiency, in my opinion, render it superior to every other mode of treatment that has hitherto been resorted to.

In all the cases of varicocele which I have treated by pressure, I have employed the moc-main lever truss, which seems better adapted to make the necessary pressure on the spermatic veins at the external abdominal ring than any other instrument that I know of. It is not liable to shift, and, what is very important, the degree of pressure can easily be regulated by the patient. I have used it with success in cases where the patient has tried other trusses without obtaining relief. The truss should be applied so as to make rather firm pressure: it often happens that, though worn with comfort after being adjusted in the morning, towards the after part of the day it begins to produce uneasiness. When this is the case, the pressure may be diminished. In general, the truss need be worn only during the day, though in some instances I have thought it advisable to recommend its use during the night also. Thus in one case the patient suffered uneasiness in lying on the side affected, and was able to pass a better night on wearing the truss. When the scrotum is unusually pendulous, or when the veins are very long, and form a plexus of any size, I advise the addition of the silk net suspender, which may be readily adjusted to the truss.*

Medico-Chirurgical Transactions, 1846, *p.* 259.

160.—*Varicocele treated by Subcutaneous Ligature.—Fatal from Phlebitis.*—This case is reported as having occurred lately in one of the Parisian hospitals, and is by no means the first case in which a fatal result has followed this treatment of varicocele. The ultimate result of these cases treated by ligature, from all we have seen, is by no means satisfactory, temporary relief being at best obtained by the obliteration of the veins. The crowded state of the hospitals of Paris, may, no doubt, account for the cases being occasionally followed by fatal phlebitis, but under the most favourable circumstances we cannot think the operation is altogether free from danger.

Monthly Journal of Medical Science, Jan. 1847, *p.* 536.

161.—*On the Palliative Treatment of Hydrocele.*—By RICHARD LANYON, Esq., M.D., L.L.D., F.A.S., &c.—If we compare the advantages of the trocar with the permanent cure by injection, there can be no doubt but the radical plan of treatment is in every instance to be preferred. But the relief to be obtained by acupuncture is so simple, and attended with so little inconvenience or pain, that I have never yet met with a patient who would not make choice of its occasional adoption, rather than submit to the use of the trocar, or the alternative of injecting the tunica vaginalis testis. Mr. Lewis deserves the thanks of the profession for his excellent elucidation of his easy method of removing the fluid; but it does not appear that surgeons in general have divested themselves of their prejudices in favour of the usual plans of treatment, or his recommendation would long since have been favourably received or repudiated by the medical community. I have met with several cases where the simple introduction of a common needle, of large size, into the sac, has invariably caused the removal of the fluid, after an interval of twenty-four hours.

Lancet, Feb. 20, 1847, *p.* 199.

[* See also Mr. Curling's excellent work "On Diseases of the Testis," &c.]

SYPHILITIC AFFECTIONS.

162.—REMARKS ON SYPHILIS.

By W. H. PORTER, Esq., Surgeon to the Meath Hospital, and Professor of Surgery to the College of Surgeons, Ireland.

[Mr. Porter thinks that there is but one venereal poison and one venereal sore. He says,]

Whether correctly or not, I hold that as there is but one venereal poison, so is there but one venereal sore, and therefore that the discrepancies observed, and the existence of which cannot be denied, ought to be explained exactly in the same manner that we endeavour to account for the various appearances that other ulcers assume: thus, if eight or ten men receive wounds or injuries of a similar nature, we do not expect that all shall subsequently suffer from precisely the same kinds of sores, and we endeavour to explain the differences, by the effect of structure, or of situation on the progress of the wound, or of the manner in which each might have been treated, or of the peculiar constitution of any of the so-injured individuals. In like manner the introduction of the venereal virus into a part may be regarded as an injury which, under precisely similar circumstances, ought to, and probably would be attended by precisely similar results in any number of cases whatever; but such uniformity is not to be obtained, and therefore we should yield to the modifying causes of inflammation the same influence in these cases that we attach to them in every other. Thus it will be conceded that ulcers assume varieties of character according to the structure in which they happen to be situated, and there is no reason why chancres should be exempted from the general rule; and also that they are modified by situation, distance from the centre of the circulation, and accidental position in parts whence the venous blood may freely return, or the reverse. It is also admitted that a patient's constitution or general state of health exercises a paramount influence on any local disease with which he is afflicted, and this not alone to the extent of inducing inflammation, phagedena, or gangrene, but that often the derangement occasioned by a single debauch in wine or other irregularity will be plainly observable in the altered condition of a sore. Lastly, the effect of treatment in changing the characters and appearances of ulcers is too obvious to require remark, and if these influences are in all ordinary cases entitled to the consideration they receive from practical surgeons, there can be no reason why they should not claim at least an equal degree of attention in syphilis. I arrange chancres, then, first, as they appear in persons whose constitutions do not interfere with their ordinary progress, and where the differences observable amongst them, may be attributed to structure, situation, duration, and the kind of treatment to which they have been subjected; and secondly, as they evidently seem to be modified by some depraved state of the system, inducing inflammation, phagedena, or gangrene.

Dublin Medical Press, Jan. 13, 1847, *p.* 18.

[On the *Use of Mercury in Phagedenic Chancres*, Mr. Porter says:]

I think the whole history of the disease has proved that if there is such a disease as syphilis, there is no remedy for it but mercury, and that much as this medicine has been abused, and often as it has been abandoned, still practitioners were obliged to fall back upon it when called to combat the malady effectively. I assume it, therefore, as a proved proposition, that where a sore or other symptom is believed to be simply syphilitic, unaccompanied by any other circumstance, either constitutional or otherwise, that might render the use of mercury objectionable, the treatment will be and ought to be mercurial, and the practical difficulty is to determine what those preventive circumstances are. Nay more, we are not to regard these complicated cases as merely productive of doubt or difficulty—they are much stronger, for trials have been made, and experience has decided the question, that where the medicine disagrees, it creates and maintains evils far more aggravated and more frightful than the original disease would have occasioned, had it been permitted to run its course without interruption. If there is one proposition in medicine apparently more universally agreed upon than another, it is that it is absolutely necessary to abstain from mercury in all such and similar cases. But these very cases have formed the subject matter of this lecture. All those foul, and destructive ulcerations that have from time to time caused the most painful mutilations to which a human being can be subjected have been termed phagedenic: it has thus (as I have already stated) become almost a heresy in medicine to speak of mercury in conjunction with phagedena: and as I have done so—and have thus incurred the danger of being regarded as the advocate of an unreasonable and improper doctrine, merely from an affectation of singularity, I wish shortly and distinctly to repeat what that doctrine is, and the length to which it may be carried.

But, in the first instance, let us not quarrel about a name, or entangle ourselves in disquisitions concerning phagedena until we are able to define its meaning. I prefer speaking of the first species of these sores under the name given by Howard "*livid irritable ulcers*," and I mean thereby foul unhealthy ulcerations, not only having no disposition to heal, but spreading and increasing their size with unusual rapidity—exquisitely painful and sore to the touch, exhibiting a dark livid surface instead of the ordinary white or yellow one, and furnishing a thin ichorous and corroding discharge instead of purulent matter. Now, the generally received opinion is, that *in all such* cases mercury is inadmissible, and the point in which I have ventured to differ from it is, that in *some* not only is it not injurious, but that its specific influence is often decidedly manifested in the sore beginning to heal and becoming clean from the moment the mouth is affected. It is true I am not able to describe farther than I have done that particular ulcer, but in this respect am not worse off than any person who might wish to describe even the most simple syphilitic sore, for up to this moment the marks and characters have not been laid down by which such can be recognised without the possibility of falling into error. The truth is, that words are inadequate to convey the impressions and ideas arising from the appearances of things, but once seen, they are sufficient to revive a recollection of them afterwards. I am extremely unwilling to deviate from any established line of practice, or to promulgate opinions that might seem to lead to dangerous results, but I have no alternative. You have seen me prescribe mercury in numerous cases that would and were termed phagedenic—and you have seen the results: and it is quite clear that having subjected the practice to your clinical observation, I cannot honestly make my clinical instruction assume a different aspect.

But whenever there is mortification present, and particularly when it has attacked a sore that at its commencement exhibited only the ordinary and comparatively sluggish appearances of chancre, I then think mercury wholly inadmissible. This is a part of the subject which in my opinion is free from doubt or difficulty. I care not for the character of the preceding inflammation, or the constitution of the individual in whom it occurs—whether he is robust, plethoric, and easily excitable, or one of those weak, and pallid, and leuco-phlegmatic patients with whom, under any circumstances, mercury will scarcely ever be found to agree. It matters not with me whether the cause may be referable to the irritation of the medicine,—or to a debauch in wine,—or over fatigue, or exercise,—or to the more local effects of improper applications, or inattention to cleanliness,—or to unfortunate malformation of the parts,—whenever the sore enlarges itself by mortification, whether this latter takes place rapidly and almost at once, as in the sloughing chancre, or more slowly by the daily successive appearance of a blue line of vesication at the edge of the ulcer, such as I have already spoken of as occurring in one form of phagedena,—in any, and in all these cases, I should never think of prescribing one grain of mercury. Not the most decided anti-mercurialist that ever denounced this all-destroying poison, could repudiate it more emphatically than I do in all such cases; and I go farther than some of these, for should the inflammation subside and the sore again assume its pristine character, still do I very rarely give mercury during the entire existence of the primary symptom, and it is seldom necessary to prescribe it afterwards. It may be that in certain constitutions and in persons amongst whom the causes just enumerated prevail, any sore, however innocent, may assume an inflammatory tendency, and therefore that many of these so-called phagedenic ulcers are not syphilitic at all; or it may be, that being syphilitic, when sloughing goes on rapidly and to a great extent, it carries off with it the poison which is still merely local, and thus that the system may escape contamination. Perhaps it is not very important to investigate the cause, the fact being undoubted that the foul and irritable sloughing ulcer, is not often followed by constitutional symptoms; indeed the exemption is so remarkable, and the escapes so numerous, that I have often suspected some of the calculations professing to show the infrequency of secondary in comparison with primary symptoms to have been principally founded on cases of this description. Here, then, although there may, and to a certain extent must, be a risk, I think it the duty of a surgeon to spare his patient the annoyance of a course of mercury, for it is probable, in the first place, it may never be necessary, and if it should prove otherwise, he will surely be in a better condition to bear it than he could be supposed to be, when just recovering from the irritation of a foul and sloughing ulcer.

Dublin Medical Press, Jan. 20, 1847, *p.* 37.

[On the *Treatment of Bubo*, Professor Porter says:]

The object ought to be, so to deal with a bubo as to have the smallest possible ulcer to heal afterwards. Independent, then, of the relief from pain and suffering obtained by the opening of any abscess, a consideration always deserving of attention, the venereal bubo ought to be opened early—perhaps as soon as the existence of the matter can be satisfactorily ascertained: because the longer it is permitted to remain, the larger will be the abscess, and because if it continue unopened until the skin becomes thin and livid, and the cuticle begins to desquamate, every part so circumstanced will subsequently slough or ulcerate whether the bubo is opened or not. But the precept of opening one of these abscesses at an early period is not of more importance than that relating to the method of performing the operation. It should be opened by a free incision, sufficiently large to permit the escape of all the matter and slough it contains, and carried downwards in the direction of the pubis, so low as to prevent the future lodgment of a drop within the cavity. If possible all this should be done at once; but if the pain or any other cause prevents the patient from submitting to his surgeon's wishes in the first instance, it ought to be particularly attended to afterwards: the continued presence of matter within it, not only keeps the abscess from closing, but causes it to burrow and extend itself under the skin—an unpleasant occurrence that can easily be avoided by attention to this simple rule.

Dublin Medical Press, Jan. 27, 1847, *p.* 53.

On the Characters of Mercurial Sores.—[Mr. Porter gives the following as the leading particulars in which the fully formed mercurial sore differs from the syphilitic.]

1. Mercurial sores are not necessarily circular or oval in shape, neither are their edges regularly defined; on the contrary, they vary in these particulars, and assume different forms as they spread: their edges are often quite ragged, loose, and undermined, and their

borders are often marked with a thin transparent cuticle, like that of a newly-formed cicatrix, extending quite around them, and giving them a silvery-white appearance.

2. The bases of mercurial sores are not hard, neither are their surfaces covered with the tenaciously adherent lymph so characteristic of venereal; on the contrary, the surface of the mercurial ulcer may present every variety of shape and appearance, sloughy at one spot, deeply excavated, and rapidly ulcerating at another, with exuberant granulations at a third, and exhibiting a tendency to heal at a fourth.

3. But the most striking characteristic of the mercurial ulcer is, its tendency to spread, and the manner in which it enlarges itself. Venereal sores when not affected by phagedena increase slowly, and having reached a given size reman so: the mercurial generally spreads quickly, and there seems to be no limit to the size it may possibly attain. I have seen an ulcer as large as my hand in each groin of the same individual. Mercurial sores, too, are easily distinguished from the venereal when they assume an herpetic character, and heal in one part whilst they are spreading in another, which the latter never do: this latter diagnostic is often extremely valuable in ulcers of the throat and on the penis, where any extensive loss of parts may be most sensibly felt during the life of the patient. The mercurial ulceration, too, often attacks the cicatrix of a recently healed chancre, and a fresh sore is thus formed—a circumstance that does not happen to the true venereal sore, except by some accidental injury, or the application of a new infection.

Dublin Medical Press, Feb. 10, 1847, *p.* 87.

M. Cazenave is decidedly opposed to the doctrine of a double virus as regards the venereal diseases, or, in other words, he holds the opinion that chancre and gonorrhœa are results of the same specific poison.

"Being placed under favourable circumstances," says the author, "for observing the development of the secondary symptoms of syphilis, I am in a position to state that in a great number of cases, the general infection of the system has originated in a gonorrhœa (blennorrhœa); and if my opinion, with the proofs which I shall adduce by and by, shall be deemed insufficient for establishing this fact, I may invoke the testimony of M. Baumes, who asserts that syphilitic diseases of the skin are very frequently the result of a blennorrhagic discharge, and altogether independent of syphilis. I hope to be able to show that blennorrhagia, like chancre, may produce that morbid condition called constitutional syphilis."

"I am aware," says Cazenave, "that M. Ricord has made numerous experiments, that he has been able to try them at will, and that on the great arena where he has taken so prominent a position by his zeal and industry, and the *éclat* of his researches, he has been able to collect all the elements necessary for rational conviction. Nevertheless, I am compelled to say that he is deceived; he has only regarded syphilis in one of its phases, and, carried away by his love for experiments, he has forgotten that the theory of venereal infection can never be reduced within the limits of a mere experiment."

British and Foreign Medical Review, April, 1847, *p.* 347.

[M. Cazenave's experience goes to show that mercury is the promptest and most certain remedy in the constitutional syphilitic affections; and that if it cannot altogether remove the taint, it will prevent a speedy relapse of the disease. We extract M. Cazenave's remarks upon the medicines which he prefers.]

Iodides of mercury. Of all the mercurial preparations, and of all the remedies of whatsoever kind, which have been recommended in the treatment of syphilides, none can approach, in therapeutic value, the iodides of mercury. We are indebted to Biett for the introduction of these valuable remedies in the treatment of the venereal eruptions. This practitioner at first preferred the biniodide, administered it in pills in the following form: biniodide of mercury, ten grains; liquorice powder, one drachm; make sixty pills. Dose, from two to three *per diem.* But he soon relinquished this preparation for the more manageable, and more efficient protoiodide of mercury. This is undoubtedly one of the most valuable remedies we possess, and it is certainly that under the influence of which we can almost invariably modify, if we cannot cure, the syphilitic eruptions. This agent seems to acquire a double value from the combination of iodine with mercury. In the great majority of cases it is borne easily by the patients, and may be continued for a considerable period without causing any inconvenience. It seldom occasions salivation. Like all the mercurial preparations it may derange the digestive organs, and occasion diarrhœa; but these accidents occur but seldom, are slight in their nature, and speedily disappear on the temporary suspension of the medicine. The skin is specifically influenced by the protoiodide of mercury. The patches of disease assume a more lively and healthy aspect, and evince a tendency to resolution. But the beneficial influence of the remedy is not confined to the skin, for the general condition and aspect of the patient undergoes a remarkable alteration. The countenance becomes more animated, and the eruption advances towards resolution with a rapidity which, in some instances, is really surprising. It is worthy of note, that when the administration of the protoiodide is likely to be followed by beneficial results, these latter will begin to appear in the course of a few days from the commencement of the treatment. M. Cazenave relates a number of cases in support of the remedial efficacy of the protoiodide of mercury in the syphilitic eruptions.

He usually administers the protoiodide internally in doses of one. two, three, to four grains *per diem.* In the mild, simple forms, not of long standing, M. Cazenave uses the following formula:—

Protoiodide of mercury, ten grains; liquorice powder, thirty grains.

Make twenty pills. Dose: to begin with one, to be increased to two, and afterwards to four pills in the twenty-four hours.

In the severe and inveterate forms of the disease, as, for example, the tubercular varieties, where a more active and energetic method of treatment is indispensable, the author prefers the following:—

Protoiodide of mercury, two scruples; liquorice powder, four scruples.

Make forty pills. To be administered in the same manner as the preceding.

It is sometimes necessary to commence with two pills, and to increase the dose rapidly. The mercurial preparation should not be prescribed in too small doses. The author has repeatedly observed this remedy unattended by any beneficial results when so administered; but, as soon as the dose was increased and given freely, it had the desired effect. Biett ascertained that when opium is given in combination with the protoiodide of mercury, the therapeutic qualities of the latter are completely neutralized; hence we should always prescribe it in an uncombined form.

Iodide of potassium. M. Cazenave has found the iodide of potassium to be only second to the iodide of mercury in its valuable therapeutic effects in the treatment of the syphilitic eruptions. Indeed, he seems to think that in some instances it is fully as efficacious as the mercurial preparation. Although he has occasionally observed it to cause considerable pain at the epigastrium and posterior fauces, it can generally be continued six or seven weeks, or longer, with impunity. The author uses two formulæ, a stronger and a weaker, which are prescribed according to the condition of the patient, the irritability of the constitution, and the duration and severity of the particular eruption present.

Iodide of potassium, ʒ ij; distilled water, ℥ xvj; syrup, ℥ ij.

Mix. Dose: two or three spoonfuls per diem.

Or the following:—

Iodide of potassium, ʒ ij; syrup, ℥ vj.

Dose: to begin with one spoonful, then two, and subsequently three in the twenty-four hours.

Such are the various modes of treatment which Biett and Cazenave have found to be attended with most benefit at the Hospital of St. Louis, in the venereal diseases of the skin. As a general rule the author preferred the mercurial preparations to all other remedies, and only had recourse to other remedial agents, when he could no longer administer the protoiodide or in cases when it was inadmissible from the first. The powerful effects of this remedy are more strikingly displayed in the tubercular forms, and those complicated with tumefaction of the soft parts and periostosis, than in any of the syphilides. Its efficacy in removing those unsightly protuberances of both skin and bone which characterize the tubercular syphilides, is oftentimes truly wonderful. We have repeatedly seen them vanish, as if by magic, and were as much astonished at the rapidity as the completeness of the cure. While we have such an agent at our command, we do not despair of alleviating, if not curing, the most inveterate form of this hideous disease, provided the patient will bear the medicine; and our past experience justifies us in all that we have said in favour of this heroic remedy.

The practitioner must always be guided in the selection of the treatment by the nature and form of the eruption, its duration, the particular constitution of the patient, and the anterior treatment. The acids are indicated in the semiacute varieties, especially in S. exanthemata, S. vesiculæ, and one or two forms of syphilitic lichen. Sudorifics are mostly of use in the pustular, but particularly the squamous eruptions, and, as we have before stated, the mercurial preparations are specially applicable in the most severe forms of the syphilitic eruptions. Whatever may be the treatment adopted it should always be preceded for a certain time by what we may call preparatory measures, both hygienic and medicinal. This observation applies in particular to those cases where the mercurial preparations are to be administered. Biett always gave opium in small doses for a week or two before he prescribed the protoiodide of mercury, and generally with good effect, and during the administration of the latter, he recommended the occasional use of the vapour-bath and sudorifics.

M. Cazenave has not much faith in topical remedies in the treatment of the syphilides. He seldom uses ointments, unless to dress an ulcerated surface, and then he employs this formula:—

Protoiodide of mercury, ℈j; prepared lard, ℥j. Mix.

The author has sometimes employed with benefit the following ointment in cases of syphilitic lupus, with the view of modifying the parts of the skin:—

Biniodide of mercury, gr. xij; prepared lard, ℥j, Mix.

The author has never found any benefit attend the use of escharotics, except in one form of syphilitic tubercle *(tubercule plat)* which he has occasionally modified by the application of nitrate of silver. In these cases aromatic vinegar has also been applied with advantage, but as a general rule escharotics are useless and frequently dangerous in the treatment of the venereal eruptions.

Baths are extremely useful auxiliaries in the treatment of the syphilides. The vapour-bath and douche, are particularly serviceable in the papular, tubercular, and squamous varieties. Tepid-baths, rendered emollient by the addition of starch and gelatine, are beneficial in certain forms of the exanthemata, in lichen, and in impetigo syphilitica. Alkaline baths are also useful in these forms, and in certain stages of the pustular syphilides, when the dryness of the scabs seem to indicate that the ulcers are cicatrized. Cinnabar fumigations are often very serviceable in the tubercular eruptions, when administered directly by means of an apparatus to the diseased parts. It is peculiarly applicable in cases of tubercle on the scrotum and about the anus. Dr. Burgess recommends a preparation of iodine and sulphur in the form of vapour in these and similar cases; ℞. sulphuris ʒiij; hyd. sulph. rubri, ℈ij; iodinii, gr. x. M. ft. pulv. sex. Dr. Burgess states that he has found this remedy exceedingly beneficial in the squamous and tubercular eruptions. It should be applied in the form of vapour, by means of an appartus, to the parts affected.

M. Cazenave considers it indispensably necessary that the treatment should be continued for some time after the eruption has disappeared. It is impossible to lay down any precise rules as to the limits of this period, which it is evident must be regulated by the character of the preceding disease and the tact of the physician. If the eruption was mild, of short duration, and yielded easily to the treatment, say in the course of a month or six weeks, it should be continued for a month longer, at the same time, gradually diminishing the dose. If the disease, on the contrary, was of a severe and obstinate character, of considerable duration, and the treatment had occupied a period of several months, the patient should be allowed to repose for about a fortnight after the disappearance of the disease, and then the treatment may be recommenced, and followed in the same manner as before for a given time, then discontinued and begun again as in the first instance. It is sometimes necessary to discontinue the medicine three different times before we have done. It is a singular coincidence, and one worthy of being remembered, that a patient who may have borne the mercurial remedies well for several months without intermission, will suddenly, and after a discontinuance of the treatment for a few days, evince an almost invincible intolerance of the remedy employed. This is a sure indication that the treatment is complete.

British and Foreign Medical Review, April, 1847, *p.* 366.

163.—ON INDURATED CHANCRE.

By Wm. Acton, Esq.

[The reader will find some good remarks on "The Commencement and Course of Induration of Chancre," and on its "Complications," in Retrospect, vol. xiv., p. 268; also in the various numbers of the Lancet for 1846. In the annexed communication Mr. Acto givesn us someinteresting remarks on the "*Cause* of Indurated Chancre." He says:]

Inoculation of the virus in every form of chancre has now clearly established the fact, that induration is not a necessary consequence of syphilis; unfortunately, however, it too frequently attends it: under what circumstances, then, it is most frequently observed, deserves the attention of the profession, and to this point I beg to call the attention of my readers, particularly as authors are silent upon the subject, and everything relative to induration must be of high importance in forming correct ideas on this most interesting symptom. It might be expected that surgeons of large experience would have been able to point out the influence of various external agents on the causes of induration, but, unfortunately, observation furnishes little information, and that principally of a negative character.

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Induration is very frequently observed in those parts of the system most freely supplied with loose cellular tissue; we meet with it very constantly in the prepuce, very rarely on the glans, though it is very common in the folds between the prepuce and glans.

[Mr. Acton observes that indurated chancre is less frequent in Paris than in London, and that, according to Mr. Wilde, it does not occur in Austria nor in more southern climates. He proceeds:]

In passing through the wards, or in seeing the outpatients of London hospitals, a great difference will be found in the number of indurated chancres, and it occurs to me that the immunity in some institutions, may depend upon the treatment. Thus, in procuring indurated masses to examine, I have in vain sought for them in the practice of those who give five grains of blue-pill night and morning, to all forms of primary sores. I have met with them in larger abundance in institutions where mercury is not so indiscriminately given; and I believe treatment in this country has a great influence in preventing the occurrence. But of this hereafter. There is one circumstance which deserves the attention of the profession; it is, that indurated chancre generally attacks a patient but once. I say generally, for I believe there are few exceptional cases, they are but few; and what law in pathology is there that does not admit of exceptions.

Among other causes of induration, the treatment of primary sores has been supposed to play a considerable part. Irritating applications, caustic, &c., have been accused of producing it: my own experience is opposed to this view of the subject. It is true that we meet with induration after the application of caustic; but it is no less remarkable that it follows after water-dressing, black wash, the most simple ointments, or even when all treatment has been neglected; and I am not aware of any treatment producing induration, although, as I have stated above, mercury may prevent it.

The constitution of the patient has been said to contribute to induration, and at one time I was disposed to believe that the clear complexion seen in scrofulous individuals was peculiarly liable to it; but I have met with so many cases in persons who have thick complexions, and in persons who have red or dark hair, that I have given up this idea. It is a curious fact, that a man may contract chancre at one time of the year, and it will not be indurated; he may recover, and in a few months contract disease again, when the sore will be characterized by induration. Such cases might lead one to agree with Mr. Carmichael, in the existence of a plurality of poisons; but observation on a large scale contradicts such an idea, and corroborates experiments on inoculation, that the syphilitic poison is one and the same, modified according to the constitution it attacks; for we find, in private practice, instances of a male with an indurated ulcer contaminating a female with a simple unindurated sore, and *vice versá:* this is not to be explained on the supposition of a variety of venereal poisons. After reviewing all the probable causes, then, of induration, we must acknowledge our ignorance on the subject, and believe it *sui generis*, uninfluenced by any thing or cause we can estimate.

Authors, as I stated above, have almost entirely neglected to give any opinion on the nature or presumed object of indurata. Wallace forms nearly the only exception, and he calls induration "a protective process, or one of those processes that are set up to limit the effects of the venereal poison, and to repair the injury of texture which may have resulted from the action of this poison."

I was once disposed to believe that such might be the object of induration; but experience proves that the interstitial deposit by no means limits the effects of the venereal poison, as secondary symptoms invariably follow it; however, it appears to modify the local spreading of sores when it comes on in the early stages of chancre; but let it be remembered that we are unable to produce induration, or to remove it. It occurs in some, not in other instances; it is specific and peculiar to syphilitic virus, though not always present in it. When present, ulceration generally does not spread, probably on account of this barrier to its progress; but may not the same cause which occasions this interstitial deposit check the spreading of the ulcer?

Wallace himself, in the next page, says: "Now it may be asked —What is the immediate cause of that excess of interstitial deposition which characterizes indurated primary syphilis? It must be answered, that in many cases we do not observe the operation of any adequate cause, and we must attribute it to some peculiar character of constitution; but on other occasions, the influence of artificial applications in exciting induration is very obvious."

After what has preceded, I fear we must conclude that induration is one of those vital processes dependent upon causes we are at present ignorant of, and we must be content at present to watch its development in the hope that one day some additional light may be thrown upon this part of pathology.

Lancet, Dec. 5, 1846, *p.* 609.

[Both general and local treatment are usually required.]

Local Treatment.—It has been shown that induration may be attended with simple ulceration, or that gangrene may come on in the centre of the ulceration, or the surface may become excoriated, and, lastly, that induration may exist without the slightest trace of ulceration, or may follow in the spot where a sore has existed, but which may have entirely healed. Now, in either one or other of these cases, the local treatment required may be somewhat different. If the surgeon have reason to believe that the induration attendant on a sore depend upon any irritating application the patient may have used, all such exciting causes must at once be left off, and water-dressing substituted. If induration disappears, the alarm of the surgeon vanishes, and the patient may be assured that he stands in but slight dread of secondary symptoms. If, however, under this treatment, the induration increases, the case comes under one of the heads we are about to describe.

Should the surgeon not be consulted until mollecular gangrene has commenced in the indurated chancre, water-dressing would alone prove inefficacious, and we must have recourse to opium, or the ulceration and induration would increase very rapidly. I formerly recommended an ointment composed of calomel and opium, but I have frequently found this application too irritating. I usually now desire the patient to use a lotion containing two drachms of the watery extract of opium, carefully rubbed down in a pint of water, or I order a quantity of crude opium, the proportions varying from one drachm to half an ounce, to be boiled for half an hour in a pint of water, strained through tow, and the lotion kept constantly to the sore. I am obliged to have recourse to this solution, as I find the spirit, or acetic acid, contained in the preparations of the Pharmacopœia, even when largely diluted with water, cause great pain to irritable sores. It must be remembered that these aqueous solutions do not keep well, they should therefore be made in small quantities at a time, in warm weather.

The practitioner must not, however, expect the local application of opium to effect any other purpose than that of allaying pain; it will be enough, if in doing this, opium should prevent the ulceration extending. It must be borne in mind, that the ulceration does not depend upon acute inflammation, as in phagedæna, but upon the effusion into the cellular tissue around the sore, thus strangulating the tissues and causing their death. This effusion must, as we shall presently see, be removed by general treatment, and which has already been fully alluded to elsewhere.

When called upon to treat simple excoriation on the surface of induration, water-dressing may be resorted to; or, if there be any tendency on the surface of the excoriation to become converted into condylomatous growths, the very best application is sprinkling the parts with calomel, and placing dry lint between the glans and prepuce. I generally object to the employment of ointments, although many surgeons recommend them. I have found greasy applications become quickly rancid, from the heat and secretions of the parts, and thus produce much mischief. The idea formerly prevalent, that mercury would thus enter the system, has nearly exploded, inasmuch as most surgeons now believe that in all these cases, sores present a secreting, and not an absorbing surface, and our object is the opposite of encouraging secretion, as we no longer imagine Nature capable of throwing off the peccant humours, although some still treat syphilis as if this were possible.

If, then, by means of one or other of these plans, ulceration, gangrene, or excoriation, has ceased, the induration alone remaining, the next question is, how are we to remove it?—and various plans have been recommended. In my own private practice, I have derived the greatest benefit from compression. The way I proceed is the following, when the induration is so situated as to permit of my carrying the plan into effect:—Folding a small pledget of lint, about the size of the induration, I apply it to the surface, and keep it bound down tightly by means of those small Indian-rubber bands now commonly used for tying up letters; they can be had of all sizes, and are admirably adapted for this purpose: they should be broader than usual, or they may be liable to rub the delicate skin of the penis. To prevent this, a piece of lint may be placed between the skin and band. This simple plan I have found the most efficacious, after experimenting with many other substances. Mr. Busk tells me that compression has been long used on board the Dreadnought, by means of a watch-spring, which exercises considerable pressure on the induration, and with the best effects, in cases which have resisted other means of discussion.

Authors have recommended the local destruction of these masses of induration; the quotation given below will, however, show the danger of applying caustic, and Wallace corroborates this opinion. I can, from personal experience, speak of the objection to removing masses of induration, in imitation of Delpech, by the knife. During the time I was making my investigations on the microscopical appearance of induration, I removed several masses of induration from different persons, and in one instance the surface of the incised wound took on the same indurated appearance, although the original indurated mass had been entirely removed by the knife: I may mention that no mercury had been given to this patient. The case is so far interesting, as pointing out that the germ of the disease extends further than the mere mass of induration, and that something more is required than mere excision, and of which I now purpose to treat.

[*General Treatment.*—The chief question is, whether a course of mercury must be given or not. Mr. Acton considers it necessary in indurated chancre. He observes:—]

Although, then, I believe that mercury will be absolutely requisite in specific induration, for the reasons above given, I would not recommend its employment for the first few days after the appearance of hardening. I would always advise the surgeon to pause before commencing a course of mercury, and see if Nature will not cause absorption of the mass, in the hope that it may not be of a specific kind. Delay is dangerous in many things, but here it is only a wise precaution: in several instances, it will enable you to avoid mercury altogether, and supposing the induration to increase, we may always have recourse to the mineral. There are authors who pretend that we should give mercury in the earliest stages of chancre, so that the antidote and the poison may enter the system together. This doctrine might be tenable, provided that we held that all chancres require mercury, but, as nine times in ten, primary symptoms do not require mercury, and, as during the first few days, it is impossible to say what sores will become hard, and therefore be followed by secondary symptoms, we should give mercury unnecessarily in nine cases out of ten. The advocates of these opinions have not shown that their treatment is more successful than any other. I have not found it more difficult to treat an indurated chancre that has existed a fortnight than one which has become hard during the last few days; I have observed no severer secondary symptoms follow the one than the other: why should we then give mercury thus rashly? However, in advocating caution, I would not be supposed to recommend the surgeon to put off its use for an indefinite period: if the hardness does not abate, or if it increases without any assignable cause, or if gangrene is set up in the centre of the indurated mass, I would at once commence mercury; for delay can now be of no use, and it is well for the patient to see, that although you do not choose to give mercury inadvertently, you are not afraid of recommending it when necessary.

As a general rule, the mineral should be given as long as any hardening remains around or beneath the sore, and this must vary from a fortnight to three months. General rules, however, in this department of surgery, admit of a large number of exceptions, as I have frequently had occasion to mention, and as I now propose showing.

I have remarked, and I do not remember to have read or heard of the observation elsewhere, that when induration occurs in a person who has already had secondary symptoms, but little mercury is requisite to cure the induration; whereas, had secondary symptoms not preceded, probably larger quantities would have been required.

In carrying out the general rule, that mercury should be given as long as induration lasts, the surgeon must not forget, that in old-standing cases, the mass may consist of something more than specific induration, and may be made up of organized tissue, which it is in vain to think of removing by mercury, as is so ably stated by M. Ricord and Wallace. I have myself seen persons bearing traces of induration for two years after a course of mercury has been left off, and yet no secondary symptoms follow; but in these instances it has been impossible, from the situation of the hardened mass, to apply compression. I now generally find these "remains" less common than formerly: the surgeon, however, must be prepared to leave them occasionally, particularly when he thinks he has given mercury enough, or the constitution of his patient will not allow him to carry it further.

Lancet, Feb. 27, 1847, *p.* 220.

164.—TREATMENT OF SYPHILIS AT ST. BARTHOLOMEW'S.

By W. P. Ormerod, Esq.

[Mr. Ormerod dwells particularly on the comparative merits of Mercury and Iodine in the treatment of syphilis. The Editor of the Medico-Chirurgical Review says, with reference to the practice of St. Bartholomew's Hospital:]

"We are glad to find that the surgeons of that hospital still hold fast to their faith in mercury, convinced as we are that a more mischievous practice does not exist than that of attempting to treat the disease without it. Mr. Ormerod seems to have estimated the value of the two drugs very fairly, and to have well deserved the award that was made him. He properly insists, in his first chapter upon the entire removal of the *induration* before the cure can be considered complete; but we have not been in the habit of attaching so much importance to the *local* use of mercury as he does.

"When the ulcer is running its usual course. is still unhealthy on its surface, and presents all the signs of progressive disease, the local application of mercury in certain forms is generally attended with the best results. So frequently and with such decided benefit, has it been applied while the sore was still spreading, that it has appeared to be one of the most powerful means in correcting the unhealthy condition of the primary venereal ulcer with induration and converting it into a healthy granulating sore; and, notwithstanding the descriptions of the bad effects of local mercurial applications to ulcerating sores, opportunities occur, from time to time, in which one may observe the greatest benefit not unfrequently following their application. * * * * * * * * * * * The application of mercury in a fluid form to indurated ulcerating sores, appears to act more beneficially than when mercury is employed in the form of ointment. It is applied more equally and easily, and only needs occasional renewing. The black and yellow washes are both thus employed: whilst, however, the latter is generally applied to ulcerations of the integuments in secondary syphilitic affections, the former is generally applied to primary ulcerations of the genital organs and parts round. For these reasons the application of mercury to the primary sore, in the ulcerated stage, is best performed by employing that substance in solution, as in that form it comes into accurate contact with the diseased surface. When, however, the ulceration has healed, the employment of mercurial lotions is not attended with such decided benefit, on account of the entire condition of the skin over the indurated part. * * * * * * To indurations on the mucous membranes or integuments of the genital organs, after all important inflammation has subsided, the strong mercurial ointment may be applied with the greatest advantage. If a portion of the ointment be occasionally rubbed on the hard part, and a piece of leather covered with it be constantly applied, a decided diminution is sometimes observed to occur in the size of the part."

Because a case is of old-standing and obstinate character we are not to have recourse to violent courses of mercury; the medicine must be then *mildly administered for a very long period.* Some of the best examples Mr. Ormerod has seen of its successful application have been in certain cases under Mr. Lawrence's care, in which small doses of *hydrarg. cum cretâ* were continued perseveringly. When the quick and decided influence of mercury is required, or its effects on the bowels feared, *frictions* form the best means of employing it; but in the majority of cases, the convenience of the *blue-pill* will secure it the preference. In the phagedænic form of ulcer the mercurial action should be rapidly induced by calomel and opium, as recommended by Mr. Lawrence. Some of these cases in the wards of that gentleman have improved as rapidly after the induction of mercurial action as cases of syphilitic iritis. After the phagedænic action is checked the cure may be completed by a milder preparation; and in these cases, in bad and unhealthy subjects, where the sore after a while becomes stationary, the hydriodate of potash with sarsaparilla and a good diet may be advantageously substituted, the patient being removed also into a purer ward. Certain phagedænic sores, attended with and maintained by a high degree of surrounding inflammation, require to be treated with local depletion and purgatives; while in other feeble haggard patients, presenting instances of nervous rather than vascular disturbance, wine and opium are indicated. So successful has mercury been found in treating the various primary sores at St. Bartholomew's that iodine has been but little used, and apparently with no great advantage. It seems, however, to aid, when added to sarsaparilla, in recruiting the exhausted frames of certain patients in whom the disease has long lingered and become combined with secondary symptoms.

Among the great number of secondary venereal affections seen at St. Bartholomew's, those of the *skin* predominate. The papular and scaly eruptions, with an irregular mottling of the skin, are the most common; next the tubercular and pustular; and lastly, the phagedænic pustular disease termed rupia. Vesicular eruption is seldom if ever seen. The *papular* eruption in its earlier stages requires antiphlogistic proceedings, after which, mild mercurials, to the extent of just touching the gums, form the most efficacious treatment. The warm-bath and in some cases good diet anl tonics are valuable adjuvants. Iodine is certainly less efficacious, and in obstinate cases very much less. In no form of disease is medicine so markedly useful as mercury in *scaly* syphilitic eruption. So useful is it that iodine has rarely been tried. This, however, possesses considerable efficacy when the affection is but slight.

Syphilitic *tubercular* eruption, when the patient's health is good, will also yield to a mild mercurial course; but in the mildest form, and when the patient's general condition is unsatisfactory, iodine is preferable. Mercury too, is adapted for the *pustular* form, when the patient is not feeble, and there is no disposition of the pustules to degenerate into ulcers: but it requires careful watching. The secondary ulcers of the skin, which are met with chiefly in the most wretched class of patients, who have employed neither care nor cleanliness, and whose general health is more or less ruined, have been attributed by many to the employment of mercury: this, Mr. Ormerod considers an erroneous view, believing that a cautiously conducted course of mercury has no tendency to produce them, admitting, however, at the same time, that mercury given rashly or at random, and the patient exposed the while to every injurious physical influence, may induce their formation: they usually present themselves under three different forms. They may be seen (1) as numerous small round ulcers scattered over various parts of the body, being usually accompanied by other secondary symptoms. The patient's health is not generally sufficiently bad to prevent the cautious administration of mercury, which, with the local use of the yellow wash, will usually effect a cure. 2. Large, semicircular, phagedænic, shallow ulcers form the symptom for which iodine may be most advantageously given. 3. Round, excavated ulcers, occurring in small numbers or singly, attended with great pain, and sometimes extending very deeply. Opium, nutritious diet, and iodine are here indicated, the blackwash often forming a suitable local application In the different ulcers mentioned, various measures one after another are tried in vain in some cases, and in such, the corrosive sublimate gr. 1-12 ter. continued for a long period, sometimes succeeds where everything else has failed.

Ulceration of the throat is upon the whole better treated by mild mercurials than by any other measure. In the *excavated ulcer* this is especially the case, if cinnabar fumigation be simultaneously used. Iodine neither cures so rapidly or so completely as mercury. In a class of cases which combine the appearances of excavated ulcer of the fauces and sloughy ulceration of the pharynx, the local use of cinnabar, and the internal employment of iodine form a very successful mode of treatment. Persons labouring under sloughy or foul ulcers generally require good diet and wine or porter, and, in such, iodine is of the greatest service. Since iodine has been employed in these cases, fumigations have been much discontinued. Where, however, the object is to clean the sore very rapidly, other means having failed, and the patient is strong, fumigation will often be still found a valuable means; although its administration requires care in consequence of the ease with which a profuse and injurious salivation may be induced by the application of cinnabar to a large sore. In *ulceration of the larynx*, iodine, conjoined or not with mercurial fumigation, is a most valuable medicine. The patches of *ulceration* seen on the *tongue* are relieved by the mercury which is indicated for the fissures of the lips and scaly disease of the skin which usually accompany them. In a form of ulceration of the edge of the tongue and corresponding portion of the cheek, exactly resembling that induced by salivation, iodine effects a rapid cure. Excavated ulcer of the upper surface of this organ is occasionally seen, and a slight mercurial course is the appropriate remedy. The *fissures* occurring at the edge of the tongue often heal readily to recur again and again. They must be treated by iodine or mercury, according to the accompanying symptoms, and if these do not exist, by a mild course of mercury.

In respect to affections of the *bones and periosteum*, in no form of disease is iodine of greater use than in the dull aching *pains* of the long bones. It mostly relieves immediately or speedily, but if it does not do so shortly much benefit does not usually accrue from its prolonged employment. Since the introduction of this medicine, affections of the bones and periosteum have so frequently been cured, that incisions are now seldom called for. Cases, however, occasionally do occur in which these are advisable, others, in which mercury is more useful than iodine, and others again in which neither medicine gives any relief. In *nodes*, unaccompanied by acute inflammation, iodine is a most excellent remedy. When the node is soft, mercurial ointment on a piece of soft leather, firmly applied over it, materially diminishes the swelling, and does not cause irritation or ulceration even if the skin be very thin. Sometimes this is so thin as to seem on the point of bursting; but we must cautiously avoid opening it in consequence of the troublesome ulcer which may result. Fluid and recent nodes admit of complete cure, while old bony ones are rarely, if ever removed, although the pains accompanying them may be relieved. Iodine has been found very useful in *gonorrhœal rheumatism*, given after the constitutional irritation has subsided, or at once if this is not considerable. The cure, however, is not complete, the patient being long tormented by occasional pains, and it seems gradually only to wear itself out.

Cases of *syphilitic ulceration of the eyelids*, described by Mr. Lawrence in his treatise, are not so effectually treated by iodine as by a mild but effectual course of mercury. Sometimes the papular eruption of the skin extends to the *conjunctiva*, producing a very troublesome affection. The application of a few leeches to the lower lid much relieve the accompanying irritation. Iodine and mercury exert no influence apart from their action on the eruption of the skin. Although these cases usually do well, they are occasionally tedious and difficult of cure, the eyes being long left in a very painful and irritable condition. Benefit is sometimes derived from rubbing tartar-emetic ointment into the nape of the neck. Upon the vast utility of mercury in *iritis*, we need not detain our readers, merely stating that in the *chronic form* of the disease Mr. Lawrence has found small, long-continued, doses of hydr. cum. cretâ, frequently of the greatest utility. The same may be said of iodine in those cases in which mercury has disagreed or proved inoperative. Puriform discharge from the *meatus auditorius* is an occasional secondary symptom, yielding to mild mercurials.

Mr. Ormerod's last chapter contains a general summary of the results of his observations upon these two valuable medicines. In treating of *mercury*, he properly lays great stress upon the power which its judicious administration exerts in the prevention of secondary symptoms. From his remarks upon the different circumstances which do and do not forbid its use we may extract the following:—

"The state of constitution usually denominated strumous is by no means a positive contra-indication to the cautious employment of mercury; if such were the case the frequency of this condition of constitution among the lower orders would often prevent mercurial treatment. In patients whose constitution is weak, and presents the common general signs of scrofula, the employment of mercury is sometimes attended with very great benefit, the patients gaining a degree of flesh and strength under its use which they had not previously enjoyed."

The following is the author's general view of the utility of *mercury in primary* disease, his observations on secondary affections we have already quoted.

"The primary indurated, and the rapidly spreading phagedænic ulcers, the indurated cicatrices of old sores, and the glandular swellings accompanied with induration, but with very little surrounding inflammation, are benefited so much more by mercury than by any other means, that its use is, if not necessary, at least most advisable The same remedy, though less beneficial in the chronic form of bubo and ulcer, which lasts for months, and sometimes for years, is attended at times with success, and affords more chance of relief than any other means. The cautious employment of mercury in the treatment of a great mass of superficial sores and simple glandular swellings, whether suppurating or not, is attended with no danger, and leads to a good general result by curing a certain number of cases which simple means hardly touch. In acute inflammation of the glands, in acutely inflamed irritable ulcers, and sloughing phagedæna, the employment of mercury is unattended with benefit, may do harm, and by taking the place of appropriate treatment is to be avoided."

In respect of *iodine* we have the following remarks:—

"There does not appear to be at present any very clear proof of the efficacy of iodine in primary disease. This medicine, it is true, has been only partially tried; but the want of any repetition of these trials is a strong argument against the good result derived from its slight use. The greatest advantage derived from iodine in primary disease is seen in the treatment of patients, who from large quantities of mercury, or long-standing primary disease, to which secondary symptoms may even be added, are reduced in health. To such, the employment of iodine is certainly beneficial, and aids in restoring them to moderate health. The foul condition of some superficial sores is at times relieved by the employment of iodine, but the local application of the tincture to parts in which considerable swelling and inflammation exist, is sometimes attended with serious injury.

"The small benefit derived from the use of iodine in primary disease is, however, quite compensated for by the advantage gained from its employment in the secondary affections. The painful affections and swellings of the bones and periosteum, gonorrhœal rheumatism unaccompanied by much fever, single, foul, phagedænic sores, and large phagedænic sores scattered over the body, are relieved by iodine in a more rapid and a more certain manner than by any other means. Ulcers of the skin, from previous venereal eruptions of any kind, occurring in patients of reduced health, but more especially those following the tubercular and pustular forms, and the conical crusts of rupia, are healed by the internal administration of iodine. The same means have also been found useful after the employment of mercury in the treatment of iritis, as well as in the removal of the protrusion of lymph which in some cases of iritis perforates the sclerotic at the margin of the cornea. In the papular and scaly eruptions sufficient benefit has followed the employment of iodine to recommend its use, where mercury is objected to, but not enough to render its adoption advisable in preference to that remedy.

"Such are the principal individual symptoms which are relieved by iodine; but the bare enumeration of them conveys but a faint idea of the value of this remedy. These symptoms are some of the most serious and obstinate that occur in syphilitic disease, and which are relieved but little by mercury. These, in fact, are the affections for the cure of which the most varied measures have been introduced at various periods, all of which have enjoyed more or less reputation. The employment of iodine, however, has been attended with greater and more uniform success than any other remedy, except mercury, which has ever been introduced for the treatment of venereal diseases. Those affections which yield least to mercury, and that condition of health which succeeds to long-standing disease and to the employment of very large quantities of mercury, yield to iodine in the most marked and decided manner."

Medico-Chirurgical Review, Jan., 1847, *p.* 73.

165.—*On the Non-Mercurial Treatment of Syphilis.*—By Dr. P. S. K. NEWBIGGING, Senior Physician to the New Town Dispensary, Edinburgh; late Physician to the Edinburgh Lock Hospital, &c.—[Dr. Newbigging has treated upwards of 600 cases of the venereal disease in various forms, without mercury. He gives the following as his conclusions:]

We are, I think, justified in drawing the following conclusions from these statements---1st. That the venereal disease is curable without the employment of mercury. 2nd. That the duration of treatment is shorter than when mercury is used. And, 3rd. That the cases of secondary symptoms supervening after the simple method are less frequent, and not so serious in their nature, as under the mercurial system.

I would remark, that whilst the statistic results serve to show not only that the venereal disease, in all its forms, may be successfully treated without mercury, but that in ordinary cases it is preferable to avoid the employment of it, I have so much confidence in the beneficial effects of this drug, in that inflammatory state where there is a tendency to the deposit of lymph, or where that condition already exists, that I candidly confess, I have never ventured to treat a case of iritis without it, and its almost visible influence in arresting the malady, or in removing the injury when done, is so striking, that I cannot readily relinquish the valuable assistance derived from mercury in the cure of that disease Moreover, I consider, that when other plans of treatment, and what is termed the simple method, have been fully tried, and without success, we should not refuse our patient the chance of being benefited by mercury, especially as we can, to a certain extent, protect him against its injurious effects by using it in moderate doses, and by carefully watching its influence on the system, and on the character of the malady for which it is administered.

Monthly Journal of Medical Science, Feb. 1847, *p.* 570.

166.—*Constitutional Syphilis in the Father Producing Syphilis in the Offspring, the Mother Remaining to all Appearance Healthy.*—By Dr. COLLES.—The question mooted in the following remarks formed the subject of an interesting discussion at the Medico-Chirurgical Society.—See Med. Gazette, May 23rd, 1845.

Dr. Colles states it to be a well-authenticated fact, that a man, apparently cured of syphilis, and marrying a female of unblemished character, will get a child which shall be born with the venereal disease, although neither of the parents may exhibit a single trace of the disease themselves during the whole period of utero-gestation; and further, that two or three children may be born to these parents in due succession, and still the father and mother remain to all appearance untainted. An infant may come into the world with the evidences of the venereal disease fully upon it; or it may be still-born with those evidences; or it may be born apparently healthy, and at some subsequent period the symptoms of infantile syphilis may appear. When the symptoms are developed *in utero*, the fœtus rarely comes to maturity; the mother takes her labour in the seventh or eighth month, and the infant has the appearance of having been dead some time. Two or three repetitions of this occurrence may follow in successive years, and the real cause be overlooked, from the apparently healthy condition of the parents, or at least from the absence of any well-marked and decided symptoms of syphilis about them. Suppose the child to be born alive with venereal symptoms, it presents a miserable picture of extreme emaciation, with drawn-in features, and the skin all over the body shrivelled, and covered particularly about the anus with a copper-coloured eruption. In this state it may live a few days, but frequently it survives but a few hours. In commenting upon the above remarks, the Editor of Dr. Colles's Lectures (Mr. M'Coy) refers to a paper by an anonymous writer, in the fourth volume of the Transactions of the King and Queen's College of Physicians, in which the question is proposed,—what are the cause, and means of prevention, of certain cases of premature labour, where the child is still-born, and where the female is liable to several successive recurrences?—and to a paper in the same volume by Dr. Beatty an eminent Dublin accouchier, who, from his own practice, was able to answer these questions satisfactorily,—that the occurrence was owing to latent syphilis, and the strong disposition to future catastrophes of the kind could be removed by a course of mercury, and the almost extinct hopes of having living offspring realized. The late Dr. Todd and Dr. Colles saw some of the cases given in proof of this opinion, and considered them valid. Mr. M'Coy has not found any announcement of this very important fact previously to the paper by Dr. Beatty, referred to above. In connection with this in-lying of syphilis in an apparently healthy couple, Mr. M'Coy adds, that he has noted cases which convince himself at least, that such a condition of the system can prevent conception altogether, without actual physical impotency; and that if, for any purpose, the parties be subjected to a course of mercury, conception will probably follow at no remote period.

Statements of various modifications of the above opinions will be found in the account of the above discussion to which we have referred.

Medical Gazette, Dec. 11, 1846, *p.* 1041.

167.—*New Remedy for Ptyalism.*—An American physician, Dr. Robertson, of Harrodsburg, has discovered that one of the commonest plants of his district, the *Ambrosia trifida*, has more prompt remedial powers in cases of excessive ptyalism, than anything he had previously tried. The patients are described as being generally relieved in six or eight hours of the more urgent symptoms, and completely cured in two days. The preparation employed is an infusion of the green leaves used as a gargle. Dr. Robertson suggests that the plant may also be found useful in other profluviæ, as leucorrhœa. The plant is known under the popular term of horseweed—horsemint. Dr. Robertson was induced to try it from observing that it completely cured a horse affected with slabbering. The effect is simply local.—*American Journal of the Medical Sciences*, October, 1846.

Prov. Medical and Surgical Journal, Feb. 24, 1847, *p.* 106.

168.—*On Chlorate of Potash as a Remedy for Profuse Salivation induced by Mercury*—By JOHN ALLISON, Esq., Bridlington. [Mr. Allison offers a few useful suggestions on the administration of this drug, and its remedial influence in cases of ptyalism. He says,]

Having on very many occasions had opportunities of observing the marvellously beneficial influence of the internal use of the chlorate of potassa, not the impure hypochlorite or bleaching compound, but the salt whose formula is K, ClO_6 in the various forms of pure anæmia, in which the intolerance of mercury is notorious, I was led to believe that as these present several striking features of analogy to the state of the system under the full action of mercury, and that as the remedial power of the salt was very remarkably manifested in the former, it might be so also in the latter; and the result of numerous trials has certainly exceeded my anticipations. Whether in severe ptyalism after the free exhibition of mercury in the phlegmasiæ, or in its more sudden and unexpected appearance after an almost homœopathic dose, in anæmia, its salutary effects are alike satisfactory. Certain precautions, however, ought to be observed in the use of the chlorate, for although no immediately bad consequences mark its power in comparatively large quantities, yet if its effects be not watched, and its exhibition suspended at the proper time, a state of the system seems to be induced the very reverse of that to correct which it has been employed; a state, namely, characterised by the phenomena of true inflammation. Viewing carefully the pathological and therapeutical properties of mercury, and the chlorate of potassa, I cannot resist the conviction that they stand to each other in an antagonistic relation, and that each in its own proper place has its specific powers elicited.

[The editor of the Medical Gazette makes the following remarks:]

Our correspondent here refers to the well-know deflagrating or detonating salt, commonly called chlorate of potash, and formerly designated oxymuriate of potash. Its formula is given by our best chemists as KO,ClO^5. There is no oxacid compound of chlorine, that we know of, which contains six equivalents of oxygen. They run 1, 4, 5, and 7. Our correspondent's formula besides, represents a salt of potassium, not of potash. Should the chlorate of potash be found by further experience, to possess the property of counteracting the effects of mercury in all cases, it will become a most valuable therapeutical agent. It is well worthy of a trial, especially in cases of profuse salivation from small doses of mercury.

Medical Gazette, Nov 27, 1846, p. 953.

DISEASES OF THE SKIN.

169—ON PORRIGO.

By Dr. Henry Davies.

Treatment of Porrigo.—When it occurs in the form of distinct patches as is usually the case in the p. scutulata or p. decalvans, the best application is pyroligneous or strong acetic acid. In the first form, the part is to be only slightly touched by means of a piece of rag or sponge; but in the p. decalvans it is to be rubbed with the acid for a minute or two, "until it produces a sort of white vesication, and subsequent redness: it should not be touched again until the redness subsides." Some cases are cured by one application, and most by two or three; and if the acid is too frequently or too freely applied it induces a troublesome irritability of the surface. In the p. favosa the encrustations must be removed by soaking with soap and water, and by poultices, and the hair clipped short but not shaved. The parts are then to be washed night and morning with an alkaline wash (carb. sod. vel. bicarb. pot ʒij. ad. ℔j. aq. tepid.) and afterwards annointed with pot. bicarb. ʒij; axung. ℥ij. M. When the alkaline wash loses its efficacy, a weak solution of chloride of lime or soda, or the following lotion may be substituted:—R. Pot. sulphur. ʒij; saponis alb. ʒiiss; liq. calcis, ℥vij; sp. V. R. ʒij. M. After this, Dr. Davies has found the following ointment useful:—℞. Ung. picis, ℥j; sulphur, ʒij; axung. p p. ʒvj; acid. sulphuric, ♏viij. M. The most careful attention must be paid to washing and drying the head and removing the dead hair. The head should be kept uncovered within doors. Attention must, at the same time, be paid to the general health, these cases generally being connected with cachexia.

Medico-Chirurgical Review, Jan., 1847, *p*, 131.

170.—*On the Use of Blisters in Ringworm, and on the Dressing of Blisters.*—By D. Maclagan, Esq., M.D.—[Dr. Maclagan dresses blisters, like burns, with cotton wool. As soon as the blister is removed, a poultice of bread and milk is applied for two hours, at once to complete the vesification and to moderate the tenderness: then the cuticle being cut, a layer of cotton wool is applied. He says:—]

The above plan has appeared to me particularly serviceable in an application of blisters which I am frequently in the habit of making, viz., to the treatment of *ring-worm.* When this troublesome disease exists on the scalp in one or two detached spots, and more especially when it appears on the face, neck, or arms, it may, if taken in time, generally be cured in a few days, and prevented from spreading by blistering the surface *thoroughly*, and dressing the blisters with the cotton. A small cantharides plaster a few lines larger than the affected spot is much more efficient and manageable than the acetic acid, nitrate of silver, and other caustics frequently in use. I have seen very ugly sores formed on the neck in delicate females where caustic had been applied to the eruption, but I have never seen any bad effects follow the application of the blister, and the disease on this part of the body is generally cured by one application. I have seen it, however, fail on the scalp from this part being less easy to vesicate thoroughly. Unless the whole affected surface is completely blistered, the disease is not cured, and, therefore, where the eruption has been allowed to spread over a great part of the scalp, the blistering plan will not succeed, and would constitute a very severe and formidable plan of treatment.

Where, instead of wishing to heal a blister soon, the object of the practitioner is to keep it open, as in the endermic application of remedies, there is occasionally some difficulty experienced in maintaining a free raw surface. A little management will accomplish this. The blister will be somewhat larger then the surface, which it is intended to keep open. When it has been kept on for the requisite time, the part is to be poulticed, especially if it has not risen freely. The whole loose epidermis is then to be removed, which a steady hand with a pair of forceps and scissors can accomplish, without causing more pain than follows the mere exposure of the raw surface to the air.

When a medicinal substance is to be applied, it is to be sprinkled over the raw surface, and the part covered for about two hours with a pledget of simple ointment. At the end of this time, savin cerate is substituted for the simple dressing, and is to be maintained until the time when a second dose of the medicine is to be applied. The simple ointment is again laid on as before, and again alternated with the savin cerate.

By following this method, I have obtained satisfactory results from the endermic application of strychnia in neuralgia, and although I have applied the blister on the cheek in females, I have not found that it left any permanent mark on the part. I have generally used two grains of strychnia diluted with six or eight grains of white sugar, and divided into twelve powders, one of which may be applied night and morning. In several cases of severe neuralgia of some years standing, I have succeeded in giving great relief to the patients. In three instances, females of different ages, exemption from paroxysms of pain lasted between two and three months. I cannot say that I have been able to trace a radical cure directly to the strychnia, but it has appeared to me that the exemption from suffering for so long a period, has enabled them by out of door exercise and other means, to obtain an improvement of the general health, which has been followed by the ultimate removal of the disease.

Monthly Journal of Medical Science, May, 1847, *p.* 833.

171.—*On Porrigo Decalvans, &c.*—By JAMES MILMAN COLEY, Esq., M.D., Licentiate of the Royal College of Physicians, and Physician to the Western Dispensary, &c.—[On this affection Dr. Coley says:—]

There is no necessity nor advantage in removing the hairs, and the disease may always be eradicated by the application, three times a-day, of sulphate of copper, which should be rubbed over the bald patches in a state of solution, in distilled water, in a proportion adapted to the sensibility of the parts affected. The friction should be continued several minutes, or until considerable smarting is felt by the patient. As the cure proceeds, the new hairs will be perceptible, and found to possess their proper firmness and colour, and will ultimately cover and obliterate the areæ. During the use of the lotion the patient should take some purgative medicine once in three or four days.

The proportion of the sulphate of copper, which I have generally found sufficient, is about fifteen grains to the ounce of water.

Porrigo Favosa, or Scald Head.---The principal characteristic of this eruption is a matting together of the hairs of the head at the parts affected, occasioned by a copious secretion of thick, purulent, offensive matter. The disease begins with distinct pustules, which ultimately coalesce and discover beneath the edges of the scabs irregular ulcerations in the cutis vera, presenting a corroded appearance, and being surrounded with a narrow inflamed border. This disease is contagious like the former species, and is sometimes met with on other parts of the body as well as the head; and in adults, or persons advanced in life, as well as in children.

Treatment.—This disease is speedily cured by the application twice a-day of ung. hyd. ammon. chlorid. and the internal exhibition once in three days of hyd. chlorid. with jalap in purgative doses. Some practitioners employ as an external remedy ung. picis liquid, which has little or no effect, and others ineffectually torment their patients with pitch-caps after the hairs have been removed.

Porrigo Lupinosa.—This singular eruption consists of a prominent hard concretion of muco-purulent matter, secreted by, and firmly adhering to the skin, resembling a portion of dry mortar or plaster of Paris. I have usually found the incrustations assuming an oval or longitudinal shape, and they are not confined to the integument on the head, being met with frequently on other parts of the skin. The appearance of the scabs examined by the common achromatic microscope has been supposed by some to resemble a vegetable fungus, and this hypothesis has been strengthened in their imaginations by the smell, which they fancy is like that of the common mouse. Dr. Corrigan has carried this conjecture still further, by supposing it probable that the fungus may be somehow conveyed to the human subject by the mouse, on which animal Dr. Bennet has discovered a similar cutaneous production. The disease is not contagious, and therefore I conclude the advocates of its vegetable origin have not succeeded in transplanting it from one human subject to another. As the eruption appears in children during a state of cachexy, it is not improbable that the peculiar appearance and odour of the scab may be owing to the presence of phosphate of lime, either in combination with pus or a muco-purulent secretion, produced by the disturbance in the elements of the blood, arising from imperfect digestion and assimilation.

Treatment.—The treatment which I have recommended for P. favosa will be found equally effectual for the cure of P. lupinosa. I have never seen any case which has not been speedily cured by these means, and there will be found no more necessity for removing the hair, when it appears on the head, in the latter than in the former species.

Medical Gazette, Jan. 29, 1847, *p.* 185.

172.—*Oil of Juniper in Scald Head.*—By Dr. Sully.—The direct application of the oil of the juniperus communis, has been already proved to be successful in scrofulous ophthalmia, scabies, and eczema. Dr. Sully has found besides, that it is efficacious in the most inveterate forms of scald head. His formula is, oil of juniper, one ounce and a half; axunge, two ounces; essence of aniseed, six drops. The oil may also be applied unmixed; but in either case it should be applied freely over the whole affected surface.—See *Journal de Médecine et de Chirurgie Pratiques*, Novembre 1846.

Monthly Journal of Medical Science, Feb. 1847, *p.* 614.

173.—*On the Treatment of Psoriasis, Sycosis, and Tinea.*—By Dr. Graves, Dublin.—[Dr. Graves had a patient with permanent redness of the upper lip, which might be termed psoriasis labialis, whom after a long course of treatment, he sent to Aix-la-Chapelle, The German physician there considered the disease strumous, and prescribed cod-liver oil. Dr. Graves says:]

This remedy agreed well with his constitution, and after some time he was able to consume two ounces of it daily, which in about two months, effected a complete cure. That the German physician took a correct view of its nature I have no doubt, as several members of my patient's family have suffered from scrofulous diseases. It may be well to mention that the cod-liver oil was made into an emulsion with syrup, mucilage, and orange-flower water, in which shape it is comparatively palatable.

Since this occurrence I have often had success in the treatment of local diseases of the skin which I suspected to depend on a scrofulous taint, and have thus cured obstinate cases of sycosis, impetigo, and psoriasis. I may add that, in all such patients, I have combined with the internal remedy the insertion of one or more issues, at a distance from the part of the skin affected; and in sycosis I follow Alibert's plan of maintaining an eruption on the arm with tartar emetic.

In certain diseases of the skin, particularly those allied to psoriasis, I have found the use of gelatine baths of the greatest possible service. Two gallons of size may be added to each warm bath for an adult, or if the odour of even fresh size is objectionable, a similar quantity of isinglass, or calf's foot jelly, may be used. A course of such baths, particularly in summer, will be found a most valuable auxiliary in curing dry and scaly diseases of the skin.

A patient of mine was affected with psoriasis of the scalp for several years. It was extensive but not severe, and did not interfere with the growth of the hair. He sought no remedy until it encroached on the forehead, and thus disfigured him. He was cured by using hot air sulphur baths for 15 or 20 minutes daily for a month, and applying the following ointment to the roots of the hair every night at bed time: Biniodide of mercury, one scruple; prepared lard, one ounce; oil of lemon, five drops. An oil-silk bathing cap was worn at night, and the ointment was not washed out in the morning.

On a former occasion I have spoken of the utility of lotions of nitrate of silver applied to the scalp in tinea capitis, and I think it now right to add, as a caution, that a solution of ten grains to the ounce, rubbed over the affected spots with a camel's hair pencil, produced in one little girl a sudden inflammation of the whole scalp, causing many sloughing boils and such a morbid process as, it is true, perfectly cured the original disease, but, for the time, totally destroyed the hair on many parts of the head. After two years, however, the hair again grew partially upon these spots, and at the present moment the new crop appears so much on the increase, that I am in hopes the deformity will be but partial. Since this untoward occurrence, I always commence the treatment with a much weaker solution.

In cases of psoriasis of the scalp and ears, back of the neck, and forehead, cases which are often of an extremely obstinate and troublesome character, and occur frequently in young females, I have seen Sir P. Crampton adopt with success the following treatment:—A sixteenth of a grain of corrosive sublimate, dissolved in half a drachm of spirit of wine, is to be taken three times a day, in four ounces of a mixture, composed of equal parts of infusion of yellow bark and decoction of sarsaparilla, together with Donovan's Liquor Cinchonæ, and the fluid extract of sarsaparilla. Along with this internal treatment, he advises the application to the parts of dilute citrine ointment, with the addition of about one-third of the unguent. ceræ albæ. The above internal remedies are often useful in scrofulous ophthalmia. The late Dr. Colles likewise used the corrosive sublimate in this affection, both internally, and as a lotion externally, dissolved in spirits of wine.

Dublin Quart. Journal of Med. Science, May, 1847, *p* 332.

174 —*Mode of Preparing Glycerine.*—[Glycerine, recommended by Mr. Startin, in certain skin diseases, is sold by Mr. Button, Holborn, and is thus prepared:]

Digest equal parts of ground litharge and olive oil with a little boiling water, stirring and keeping up the water as it evaporates. When of the consistence of a plaister, wash it well with hot water, decant the latter, and filter; pass sulphureted hydrogen to throw down the lead, and then filter and evaporate to a syrup in a water-bath.

Medical Times, Dec. 19, 1846, *p* 228.

175.—ON THE TREATMENT OF ERYSIPELAS.

By Dr. W. R. Basham, Physician to the Westminster Hospital.

[As to the local treatment, hot fermentations, says Dr. Basham, are very useful, and are generally (not always though) preferred by the patient to cold applications. He continues:]

The nitrate of silver has been used freely to the erysipelatous surface in each of these cases, and with the effect of cutting short the inflammation, by setting up an action different from, and incompatible with, the specific action of erysipelas. That it does cut short the inflammatory condition of the skin is proved by the absence of vesication when it is applied in time, the cuticle subsequently merely desquamating. That the action of the nitrate of silver on the skin is incompatible with erysipelatous inflammation is also testified by the fact, that the disease will not extend itself beyond a line marked out by the lunar caustic. Advantage is taken of this fact to prevent the erysipelas extending, by surrounding the inflamed parts with a cauterized line of demarcation. The second case illustrates this fact:—Two days after admission, the erysipelas exhibited a tendency to extend downwards below the chin, and had reached to within half an inch of the clavicle of the left side. The healthy skin was freely cauterized by the nitrate about a quarter of an inch beyond the line of inflammation; the shoulders and neck posteriorly were in like manner marked off, but the hollow space between the scapulæ had escaped the touch of the nitrate, and the next day upon examining the patient the progress of the erysipelas had been confined within the boundary line, except that spot which had inadvertently escaped the action of the caustic; there the inflammation had crept along, being checked right and left by the caustic line, but proceeded downwards in the direction of the spine, through the passage left for it by the interruption of the continuity of the cauterized barrier. It was remarkable to witness the erysipelatous inflammation, like a burning torrent, holding on its course unimpeded through this narrow outlet, till again damped and extinguished by the effectual quenching of the nitrate.

There are some cases, however, in which it is less advisable to use the nitrate, than to depend upon free incisions made with a lancet, scoring the skin in parallel lines, and sufficiently to extract blood freely for the relief of the fulness and distension. This course is especially necessary when the appearance of the skin indicates a more intense degree of inflammation, of a more palpable phlegmonous character, and certain, if not by this means relieved, to terminate in suppuration and purulent infiltration in the subjacent cellular tissue. This practice may appear severe, but it is not so, it quickly affords relief, and saves much subsequent pain and trouble.

[Any little abscesses that form on the face, for instance, in idiopathic erysipelas, where general purulent infiltration is rare, should be opened by a free incision, and, the contents being evacuated, pressure should be made upon the sides, or the sac will refill. With regard to constitutional treatment, brisk purgatives—at the beginning of the affection, mercurial alteratives, and towards the end, wine or ammonia, if required, are the remedies to be relied upon; for, as Dr. Basham observes, general blood-letting, and depleting treatment, are not admissible in those cases met with in the metropolis. He says:]

The chylopoietic viscera are always irregular in function and secretion, and require the agency of mercurial purgatives; these unload the bowels, relieve the biliary congestion, and improve the aspect of the dejections. Brisk saline purgatives, co-operating with the mercurials, so that they be not pushed too far, are of great utility. Colchicum in combination with a neutral salt and magnesia, is in my experience the best form of cathartic. The action of colchicum is developed principally on the duodenum; it stimulates the hepatic ducts, cleanses this portion of the intestines of mucoid accumulations, modifies the accompanying fever, diminishes the heat of the skin, relieves the local turgescence, and furnishes other indications of amelioration. Two or three good purgative actions

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are generally sufficient, for hypercatharsis must be carefully avoided. The form in which I usually prescribe colchicum, is the haustus colchici compositus of our Hospital Pharmacopœia. Vin. colchici, dr. ss.; solut. magn. sulph., dr. iij.; magnesiæ carb., gr. xx.; aquæ menthæ pip., oz. j. m. fiat haustus.

The type of the fever in the majority of metropolitan cases is unquestionably of an asthenic order, ammonia and other stimuli becoming necessary oftentimes in the early stages of the disease. With respect to the proper period at which stimuli should be administered, it is difficult, I may say impossible, to lay down any special rules applicable to all cases; each case presents its own peculiarities and indications on which the necessity for wine must depend. In rural districts, among a hardy and robust population, general depletory measures, and an antiphlogistic treatment throughout may be advisable, but in the metropolitan districts the febrile symptoms early indicate want of power, and the necessity for support and stimuli.

Opium exercises a most beneficial influence wherever irritability, restlessness, and delirium, are the concomitants of fever You have seen in the progress of these cases how serviceable it has proved in allaying the delirium, restlessness, and vigilance, so common in the fever of erysipelas. The pulvis ipecacuanhæ comp. is, in most cases, the best form in which opium can be given, from its developing a secondary influence over the skin. Opium does not act merely as an hypnotic, or as an agent only to procure sleep; it lessens the irritability of the system generally, husbands the physical power, and gains time for remedies to operate, and the functions to be restored to their normal state. It has been already observed, that diffusible and vinous stimuli are important and essential remedies, so soon as the pulse and tongue indicate the approach of a typhoid condition. Ammonia is best given, as the sesqui-carbonate in the mistura ammoniæ acetatis, or effervescing draught, formed by twenty grains of the sesqui-carbonate with two tea-spoonfuls of lemon juice. The tongue becoming moist, the skin cool, and the pulse lowering in frequency, express a remission of the adynamic state. Of vinous stimuli, it is hardly necessary to specify any particular kind: port wine or brandy are those most usually employed.

The convalescent stage of this affection differs in but little from similar periods of other fevers. Cinchona-bark tea, with a mineral acid, forms the cheapest and most effective tonic, prepared by pouring a pint of boiling water on an ounce of the bruised lance-leaved bark, the water being first acidulated with three drachms of the dilute sulphuric acid. It differs from the infusum cinchonæ of the pharmacopœia only, in the maceration with acidulated water, the object of which is to render the *kinate of cinchonine* more readily soluble. You will find this tonic economical, and quite as efficacious in the convalescent periods of most acute diseases as the more expensive preparation of quinine.

Prov. Med. and Surg. Journal, Nov. 25, 1846, *p.* 560.

176.—ON DOSES OF ARSENIC.

By F. T. Wintle, Esq., Warneford Hospital, near Oxford.

[In Retrospect Vol. XIV., page 302, and also in the Provincial Journal for April 1st, 1846, Mr. Hunt asserted that arsenic should never be given in increasing doses, and that the largest dose should be five minims of Fowler's solution, three times a day. In opposition to this Mr. Wintle relates the case of a female in which Fowler's solution was increased to the dose of fifteen minims, with the most gratifying results. He says:]

The principal features of the case, when she came under my care in January, 1846, were these:—Unmarried lady, aged 34. Tall, dark person; bright, full eyes; face covered with an ecthymatous eruption, which becomes much aggravated when she is spoken to. Respiratory functions in healthy condition, as also functions of the abdominal viscera, so far as can be ascertained. Labours under deep depression, with strong propensity to suicide. Was very active and cheerful up to this attack, which came on gradually about fifteen months ago, and was supposed to have been occasioned by anxiety and watchings during the serious illness of some members of a family, in which she resided as governess. Suffers an overwhelming distressing feeling that she has lost all regard for her relations and friends; and is entirely and irrevocably alienated from them. When spoken to, answers only by a flood of tears, and shakes her head. Has been under treatment at a public hospital for twelve months, but without relief. Twice she has attempted self-destruction—once by suspension, in the above hospital. Tongue white and moist; pulse 86, not full. Bowels and catamenia regular, but the latter scanty. Complains of heat and unpleasant feelings at top of her head; sometimes painful sensations along the dorsal and lumbar vertebræ, (to these she has been subject for years.) Appetite good; nights disturbed by horrible dreams.

Treatment.—Alterative doses of blue pill and hyoscyamus at bedtime; digitalis and salines twice a day; lotion of spirit of wine and vinegar to the head, succeeded by creosote and baths. These were the chief therapeutic means up to June 14th, when there was not any positive amendment apparent, and the following were prescribed:—Arsenical solution, five minims; tincture of henbane, half a drachm; water, an ounce and a half: mix, and take twice a day. A shower-bath every other night.

June 27th.—Cheerful and conversible, but indolent. Friends who have visited, consider her mind improved; eruption much the same. Repeat the mixture, augmenting the dose of arsenical solution to eight minims.

July 4th.—Increase the dose to twelve minims.

Aug. 7th.—Continues improving; face clearer.

10th.—Repeat the mixture, increasing the dose to fifteen minims.

Sept. 26th.—Face clear; has gradually lost her melancholy feelings; has written to her friends, and is cheerful and happy; speaks freely of her strange feelings, but cannot account for them; has had the run of the nursery for some time, but shows no disposition to injure herself. Omit the medicines.

Oct. 5th.—Continued cheerful and happy, and went home with her brother to-day.

The sequel of this interesting case proves that the liquor arsenicalis, may be not only safely but beneficially prescribed, in much larger doses than Mr. Hunt allows. I could adduce other cases; and my impression is that if the medicine had not been so increased, the good effect would not have been produced, or a much longer time would have been required. There are many points of much interest in the case above recorded, but my desire is to remove from the minds of junior practitioners the impression which the perusal of Mr. Hunt's paper may have made--namely, that the maximum dose should be five minims. To me it appears to be a most serious error to set bounds to the doses of medicines. Constitutions and circumstances vary so much, that it is imprudent and unwise to restrict their quantity. We ought to have some object in view in our prescriptions; and it is worse than useless to adopt any particular form or quantity. Each case will point out the medicament required; and as to dose, it should be moderate at first, then increased, cautiously, but firmly, till the desired effect is produced, or until it is evident the medicine selected is, from idiosyncrasy or otherwise, inoperative or unsafe. The principle of looking to the effect rather than the dose, is, I fear, too often neglected, or lost sight of. In some few cases, certainly, it is attended to, as in delirium tremens, where opium is so successfully, because so freely, given; and yet, how timidly it is prescribed in disorders very nearly allied, but, unfortunately, not bearing the same name!

[The above case is certainly very interesting, but we suspect that the large doses of arsenic, cannot often be continued in the way recommended by Mr. Wintle: we have moreover found Mr. Hunt's practice so exceedingly successful, in severe obstinate cases, that we should prefer the safer, although, perhaps, slower process.]

Lancet, Dec. 19, 1846, *p.* 678.

[While allowing that the case recorded by Mr. Wintle is an interesting and instructive one, Mr. Hunt defends the opinion which he had previously expressed, that arsenic ought to be administered only in very small doses. He says,—]

Than arsenic, there is no article of the materia medica, concerning which there exists in the profession more discrepancy of opinion. Even within the last two years, most contradictory accounts have been published of its effects, its proper doses, and its rightful mode of adminstration. On the one hand, a very large section of the profession repudiate it altogether, and some few are not sparing in their invectives against the temerity and recklessness of those who are in the habit of prescribing it. On the other hand, Dr. Wintle chides me with imprudence and folly for restricting the dose of this potent mineral within any limits whatsoever, save those suggested by its effects in a given case, of which effects he gives us no intimation, except so far as they appear to have been curative.

It behoves every practitioner who prescribes so virulent a poison, to acquire an accurate knowledge of the phenomena to be effected under its use, not only as regards the suspension of diseased action, but more especially with reference to its influence on the general economy. This knowledge, it is true, has but recently dawned upon us, and the field is still open for further inquiry; but enough is known and published to secure the safe administration of the medicine, while it enables us to treat successfully the most inveterate cases of lepra, psoriasis, lupus, &c., as well as other diseases hitherto reckoned incurable, concerning which I hope to communicate some invaluable information on a future occasion.

I have already demonstrated, that arsenic, in five-minim doses, generally produces a slight degree of inflammation of the conjunctiva, tumefaction of the lower eyelid, and an increased secretion of tears; that these symptoms, while they *accompany* the salutary influence of the remedy, actually *precede* every other deleterious influence, and that these conditions depend upon the arsenic being taken on a full stomach, not, as Dr. Cormack and others recommend, on an empty one. I have further shown, that when the conjunctivitis becomes evident, the arsenic is in full operation over the disease; that this amount of therapeutical power cannot be increased by augmenting the dose, but is more fully secured by diminishing it; and I may now add, that I have often found that if the dose be not diminished, and more especially if it be increased, the disease, instead of getting well, often becomes unmanageable. And recent observation has revealed to me another important principle—viz., that whereas conjunctivitis is a primary effect of small doses of arsenic, it has also, after a time, a secondary effect. The trunk of the patient first, and, subsequently, all those parts of the body which are by the dress protected from the atmosphere, become covered with a dirt-brown, dingy, unwashed appearance, which under a lens reveals a delicate desquamation of the dermis, and is, in fact, a faint form of pityriasis. Now, this appears to me to be an indication of a secondary form of arsenicalization; for I have observed, that when the dose is diminished under conjunctivitis, the eyelids may be allowed to get well, yet if the patient's skin be kept brown, the disease will vanish just as rapidly as though the conjunctiva were kept sore, which I once thought necessary. The first and larger dose of the arsenic appears to knock the disease down, (so to speak,) and to exhaust its energy. Its less malign, or secondary form, will be subjugated by the secondary or pityriatic action of arsenic. I have repeatedly watched these interesting processes with the most jealous attention, and commend them to the observation of your readers.

Lancet, Jan. 23, 1847, *p.* 91.

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177.—*On Blisters in Confluent Small-Pox.*—By M. Piorry.—M. Piorry has for some time past derived great assistance from the use of blisters as means of preventing the scarring of the face by the cicatrices of confluent small-pox. The pus, retained so long in contact with the tissues, and altered in character through the agency of the air which passes through the pustules by endosmosis, operates extensive local destruction, and proves very injurious to the system when re-absorbed. Various practitioners have proposed measures for obviating this inconvenience, as by cauterization of each pustule (impossible in the confluent disease), the opening them by scissors, needles, &c. Experience, however, shows that over such means the blister has the advantage of—1, opening at one time the whole of the pustules over which it is applied: 2, evacuating their entire contents, and preventing the consequences of the sojourn or resorption of pus: 3, counteracting the attendant erysipelas, by diminishing the swelling: and 5, causing the scabs to fall much sooner from the face than from other parts of the body. It has an advantage over mercurial plasters in not risking the excitement of salivation, the extent of evil which results from its use being a slight ischuria. The various plasters applied as abortives in this disease have too been reproached with exerting a repellant action, and directing the morbid action upon the brain and its membranes. A blister, on the contrary, rather acts as a derivative.—*Gazette des Hôpitaux*, No. 101.

Medico-Chirurgical Review, Jan. 1847, *p.* 258.

178.—*On a Case of Elephantiasis.*—By G. Southam, Esq., Surgeon to the Salford Royal Hospital, &c.—[This patient had the disease for twenty-three years. It commenced on the dorsum of the foot, and was preceded by attacks of deep-seated pain. The integuments were often attacked by erysipelas, and ulcerated in several places. A year before death she measured round the calf two feet nine inches; above the knee three feet four inches; and at the top of the thigh five feet six inches. Mr. Southam says:—]

On examining the body, the enlargement was found to have been caused by the deposit of a dense, white, lardaceous substance, interspersed with fat, in the subcutaneous cellular tissue. The principal venous trunks were much larger than natural, and, when divided transversely, were patulous. The coats were thickened and converted into a fibrous substance, disposed round the vessel in laminæ. All the smaller vessels, when divided transversely, resembled arteries filled with coagula. The disease in the veins had not extended beyond the groin; those of the pelvic cavity were sound; the viscera were healthy; nothing beyond slight hypertrophy of the epidermis and cutis were detected in the skin.

The author remarks, that he has been informed by several medical friends who saw the patient, and who had witnessed elephantiasis as it is met with in the natives of South America and the West Indian Islands, that the tumefaction seldom attains so great a size as was observed in the case now related. From the appearances found on dissection, it is evident that the disease originated from repeated attacks of subacute or chronic inflammation of the venous capillaries, which caused the pain and febrile symptoms. The author is of opinion, that the immediate cause and pathological changes of elephantiasis bear an intimate relation to those of phlegmasia dolens and the induration of the cellular tissue, in new-born children; the apparent differences depending on the degree of venous obstruction and on the remote influences which have originated it.

[Dr. Copland considered this the most fully detailed case that is published. Mr. Curling mentioned a case recorded in the 2nd Vol. of the Medico Chirurgical Transactions, which had originated in phlegmasia dolens. He stated that he was treating a case of elephantiasis, by supporting the limb, and administering liq. potassæ; and had found that treatment serviceable.]

Lancet, March 6, 1847, *p.* 257.

DISEASES OF THE EYE.

179.—ON STAPHYLOMA.

By W. R. Wilde, Esq., M.R.I.A., Dublin.

In cases of conical staphyloma engaging the cornea alone, and where the white, horny mass protruded so far as to produce a remarkable deformity, and by projecting between the lids, to cause such an uneasiness as to demand surgical interference, we have lately performed the following operation with the view of obviating the escape of the humours, the suppurative inflammation, and consequent collapse of the globe which so frequently follows the ordinary mode of proceeding.

Having fixed the lids as in the operation for extraction, we transfix the most conical portion of the cornea with a fine hook, and then pass a small curved sewing needle, armed with a fine ligature, through its substance from below upwards, and passing it through the anterior chamber, bring it out through the cornea above, within about a line from its sclerotic margin. We then pass a cataract knife across the cornea as in making the lower section for extraction, taking care not to cut out the needle, and with a curved scissors remove the flap, as is usually done in the ordinary operation. Making sure that we have removed a sufficient quantity of the projecting diseased mass, we draw the needle and ligature through, and, by knotting the latter, bring the edges together, as in any other simple incised wound; and in two out of the three instances in which we have tried this plan of treatment it was perfectly successful, the edges of the cornea adhering, and the eye subsequently presenting a simple leucoma, instead of the previous staphyloma. One of these cases was operated upon twelve months ago, and there has been no return of the projection since. Considerable difficulty will be experienced in passing the needle through the thickened cornea, which in some cases is as hard as cartilage.

In cases of more general staphyloma, where the sclerotic and choroid are also engaged in the projection, we have succeeded in reducing the size of the globe within the ordinary dimensions by the following means. With a large, flat, spear-shaped needle, we pierce the cornea, and giving the instrument a half turn, so as to enlarge the aperture, permit as much of the fluid contained within, to escape, as will reduce the globe to the normal size; the lids are then closed, and a pledget of lint applied upon them as tight as the patient can comfortably bear. This we repeat every second or third day, each time re-applying the pad, until we find that the eye does not continue to increase in bulk after the operation. It will generally require to be repeated six or eight times, sometimes oftener; but we have frequently succeeded in permanently reducing the deformity by this means, at the same time that the figure of the globe is preserved. We never saw inflammation follow the tapping but once, and that was in a very unruly, irritable, scrofulous subject. A growing staphyloma, such as that which follows upon extensive ulceration of the cornea with prolapsed iris, may, after the inflammatory stage has subsided, be arrested by tapping it, and applying moderate pressure. In the same manner, where the conjunctiva of the cornea and a large portion of the laminated cornea had ulcerated, but were still tolerably transparent, and that the remaining layers of the cornea bulged forward in such a manner as to threaten to give way hourly, we have succeeded in preventing this unhappy accident, and restoring the cornea unblemished to its natural condition, by keeping up continued moderate pressure upon the lid for some days, at the same time that the ulcer was touched with a sol. nit. argenti; while other means were taken to lessen the inflammation and to promote a healthy condition of the diseased parts. In cases of hydrophthalmia and staphyloma, where the aqueous fluid is evacuated, it will be found to have acquired a remarkably saltish taste, probably from some increase in the quantity of muriate of soda which it contains.

By one of the last numbers of the Milan Gazette we perceive that Professor Quadri has in his operations for staphyloma also endeavoured to attain the object which we have had in view,—viz., that of preserving the lens and humours, and preventing the collapse of the globe; but his operation differs in no wise from that usually performed, except in immediately closing the lids and endeavouring to promote adhesion of the cornea, without suppuration. By the introduction of the needle we fix the globe; to a certain degree present a barrier to the sudden evacuation of the lens or humours; and perhaps held back the iris in its place, if it is not engaged in the staphyloma, and, by drawing the ligatures immediately together, not only prevent the possibility of the globe collapsing, but place the cornea in the best possible condition for adhesion.

Dublin Quarterly Journal, Feb., 1847, *p.* 243.

180.—*On Palpebral Tumours.*—(From the Report on the Progress of Ophthalmic Surgery, for 1846.)—By W. R. Wilde, Esq., M.R.I.A., Dublin.—*A new instrument for removing palpebral tumours.*—Dr. Desmarres, formerly assistant to Dr. Sichel of Paris, has invented a new description of forceps for the more convenient removal of those little encysted and other tumours which so frequently occur in the eyelids. The posterior blade of this is expanded into an oval, slightly convex surface, about three-quarters of an inch in length; the anterior blade forms a ring the size of the outer margin of the posterior plate, and not unaptly resembles the ring of a key. These two branches, which separate by the usual spring in the shoulder of the instrument, can be retained in close approximation by means of a screw and nut placed a little below the roughened portion of the handles. The mode of using this instrument is to pass the smooth, polished posterior blade between the lid and the globe, and then, by screwing down the outer ring, compress within its circle, a small portion of the lid. The object of the inventor is, by the pressure which it exercises, to arrest the annoying hæmorrhage which invariably occurs from removing these tumours externally, somewhat in the same manner as the pressure of the lip between the fingers arrest the hæmorrhage in the coronary arteries in removing cancer from that part.

For the object for which it was intended by the inventor this instrument produces the desired effect; but in the cases in which we tried it, the irritation and uneasiness attending its application appeared almost as great as the pain attending the operation of removing the tumour. The intention of this, and its practical application, is, however, in our opinion, not only unnecessary, but, in the generality of instances, positively incorrect. The majority of tumours occurring in the palpebræ are of the encysted kind, the contents of which are, particularly in their advanced stage, semi-fluid, frequently quite purulent. They are to be removed most effectually and with least pain from within. They should be allowed to advance to at least the size of a pea, unless they produce decided inconvenience, before they are interfered with. Their original seat is generally under the orbicular muscle, and if allowed to proceed without interference, they, in the great majority of instances, point internally, their seat being at once recognised by the ophthalmic surgeon, on everting the lid, by certain well-known appearances, namely, at first, a slight dimple in the cartilage; then an increased redness deepening into a purple hue; afterwards a central elevation, which in process of time becomes yellow, from the absorption of the cartilage permitting the contents of the tumour to appear through, while the surrounding redness still continues.

As the disease advances, a small aperture, not larger than a pin-hole, is found in the centre of this yellow point, and through it the more fluid part of the contents is gradually discharged. If allowed to advance unchecked, the next stage of the disease is very remarkable; a fleshy papilla, about the size of a split pea, forms around

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this aperture. Upon examining this minutely we find that the opening occurs in its centre, and that its edge overlaps the conjunctiva like a mushroom. If the patient presents with the disease in this advanced stage, this little fungous growth should at once be removed with a pair of curved scissors, but that will not cure the original affection. In whatever stage it presents,—and we would not advise its being interfered with till that of the yellow elevation, —it should be cut into, (the lid being held in the inverted position by an assistant) with a very small, sharp-pointed scalpel, the blade of which is not above one-eighth of an inch in diameter. Unless the cartilage has become very much thinned, it is not easy to squeeze out the entire contents; but the following mode of procedure we have found perfectly effectual. With a fine silver spatula, we press out the entire contents, and then having coated the extreme top of a small piece of silver wire with nitrate of silver (by dipping it into some melted caustic), so as just to coat its surface, we pass it rapidly through the incision, and roll it round in the sac, smearing the opening we have made with oil, in order to prevent any particles of the caustic which may adhere to it irritating the ocular conjunctiva. During the last three years which we have employed this mode of operating, we have scarcely ever witnessed a return of the disease.

There are, however, a class of tumours which occur in the palpebræ, the contents of which are of a much firmer nature than that last described, and which, in many instances, cannot be pressed out after an external opening has been made. From their resemblance to the structure of the conglomerate glands, they have been denominated *glandiform* by the late Mr. Tyrrell. They do not point internally, and therefore cannot be removed through the cartilage. They must be dissected out externally. One of their most frequent seats is in the lower lid, just beneath the punctum lachrymale, and when such is their situation we find that passing a probe into the lachrymal sac not only facilitates their removal, but insures the safety of the duct. In tumours of this description the instrument of Desmarres will be found useful. Some of these tumours not inaptly resemble, when rubbed between the fingers after their removal, a grain of swan-shot, so hard and unyielding are they. In the paper of the Parisian oculist in which the instrument is described, he enters at some length into the general management of these tumours, and recommends the use of various ointments for their dispersion; but though we have given a fair trial to such means, we must say they have invariably proved inefficacious. In removing those small tarsal tumours externally, or in performing any minute operation upon the eyelids, where, from the very great, and often abnormal, vascularity of the parts, such hæmorrhage ensues as continually to obscure the growth which we are desirous to remove, the assistant should be provided with a piece of fine sponge, about the size of a hazle-nut, held within the blades of a spring forceps, with which the blood should be continually absorbed. Dr. Sichel has recently noticed a small lipomatous tumour, of a yellow hue, situated in the substance of the lid, and generally towards the internal angle, which he states is usually connected with diseased liver, especially hypertrophy and fatty degeneration of that organ. If these little bodies are extirpated, they are re-produced, and their complete removal is only to be effected by an improvement of the predisposing cause.

Dublin Quarterly Journal of Medical Science, Feb. 1847, *p.* 227.

181.—*On Warty Excrescences of the Eye-lids.*—By J. B. Estlin, Esq., Bristol.--[Mr. Estlin thus describes what he terms "*Soft Warts:*"—]

They vary in size from a pin's head to a small hazel nut, their base not smaller than the projecting part, the white tumours shining through the skin. A minute aperture is observable in them, from which in the larger ones a white substance of the consistence of butter can be pressed out. Their contents cannot, however, be thus entirely evacuated, as each excrescence consists of a cluster of minute encysted tumours. When occurring elsewhere the larger tumour has usually near it several smaller.

[Mr. Estlin considers these tumours to be diseased *sebaceous glands;*--and regards the disease as infectious, though the common cuticular warts are not so. These 'soft warts' cannot be got rid of by lunar caustic,—nor even by potassa fusa, unless it is very freely applied. Mr. Estlin says:--]

The most expeditious and least painful method is to slit them quite through with a lancet or cataract knife, passed perpendicularly to their bases, and then forcibly to squeeze the separated halves, with the thumb-nails placed on the sound skin, till the contents are fully turned out of their lodgment; the force required to do this will sometimes bruise the skin a little, but in two days the part is usually healed. The tumours when thus removed are found to be lobulated, appearing like miniature brains. If they resist considerable pressure, the loosened portion may be taken hold of with forceps, and thus the whole extracted. This practice may be employed when the tumours have begun to inflame or suppurate. Smaller ones usually disappear without treatment; their chief annoyance arises from the inflammation they occasion in the eye and lids. Children are the chief subjects of the affection.

Provincial Medical and Surgical Journal, Jan. 27, 1847, *p* 46.

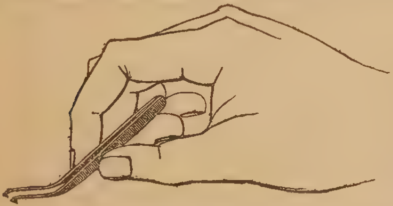
182.—*On a New Instrument for Seizing and Detaching the Iris in Cases of Artificial Pupil.*—By W. R. Beaumont, Esq., Professor of Surgery, King's College, Toronto.—[Prof. Beaumont has invented a pair of forceps, for detaching the iris from the ciliary body, or drawing it through the wound in the cornea, in the formation of artificial pupil. He says:]

Mr. Lawrence says: "For performing iridodialysis, that instrument is best suited with which we can come nearest to the circumference of the iris, so as to seize it close to the ciliary ligament, and no one can deny that a simple fine hook is the best for this purpose." It is therefore with great deference to the judgment and experience of Mr. Lawrence that I propose any instrument as superior to the hook in seizing and detaching the iris from the ciliary ligament. On the dead subject I found the hook sometimes tear its way out of the iris instead of detaching it; in using the accompanying forceps, both on the dead and on the living subject, this laceration of the iris without its detachment never occurred, and I did not fail in any instance in seizing the iris at the first attempt, and close to its ciliary margin.

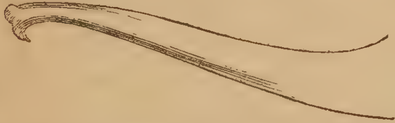
The hook may possibly in transfixing the iris wound the capsule of the lens; the teeth of the forceps are too short, and are set in a direction which causes them to enter the iris obliquely.

The point of the forceps, when the blades are closed, is perfectly smooth, the teeth being then concealed, so that the instrument may be introduced into the anterior chamber without risk of wounding any other part than that portion of the iris which it is the operator's intention to seize.

The forceps should be held between the thumb and index of the right hand, midway between the angle and junction of the blades, which latter part should rest against the middle finger.



The forceps should, of course, be introduced closed through the wound in the cornea, and should not be opened until their points reach the ciliary margin, or that part of the iris which it is intended to seize; the points should then be pressed gently against the iris, and the blades closed by the thumb and index, and they cannot fail to seize the iris and hold it with sufficient firmness for the completion of the operation.



Magnified view to show the form of the teeth and their direction.

I may mention that I made this forceps myself, but would advise that the blades, from the angle to their junction, should be made a little longer, and rough on the sides where they are held between the thumb and index.

Medical Gazette, March 19, 1847, *p.* 502.

183.—*New Cornea Knife.*—By W. WHITE COOPER, Esq —In performing the operation of extraction of cataract with Beer's knife, I have experienced upon many occasions two sources of inconvenience, more especially when the eye was deeply set, and the palpebral fissure small. First, in consequence of the length of the knife, the point often pricks the caruncula lachrymalis before a sufficient portion of the blade has passed across the cornea to admit of the section being completed; and, secondly, the edge of the lid may be cut by the sharp angle at the shoulder.

Either of these occurrences may be productive of annoyance, which it is as well to avoid; first, by exciting an unnecessary degree of pain; secondly, by causing a sudden start on the part of the patient; and, thirdly, by inducing an effusion of blood, which may be considerable.

[To obviate these inconveniences, Mr. Cooper recommends a knife which is shorter than Beer's, and has the angle at the shoulder not so sharp. The blade is an inch and one-tenth long, with a cutting edge of nine-tenths, and the greatest width is three-tenths.]

Provincial Medical and Surgical Journal, Dec. 9, 1846, *p.* 585.

184.—*On Gonorrhœal Ophthalmia.*—By M. Ricord.—[Among the most urgent local symptoms, says M Jobert, is swelling of the lids, which prevents the escape of the secretion. When pus is infiltrated under the conjunctiva, there is less swelling, and the lower lid is then sometimes everted; but the cornea sloughs from the pressure of the chemosis which surrounds it. According to Ricord, there is less fever in the ophthalmia resulting from the direct contact of pus, than in the other form. As to treatment he says:—]

The most important therapeutic measure in the treatment of ophthalmia consists in the well-directed and bold use of the lunar caustic. It may be used in solution, in powder, or in a solid form. The solution is the easiest of application: ʒ ss. of nitrate of silver to ℥ss. of distilled water---such is the proportion to be employed; but its action is not limited to the diseased parts, and extends also to those which have remained healthy. In infants and unmanageable adults it is, however, a great resource. The powder can only be applied in an unequal manner, and the Professor, therefore, prefers the solid pencil. The inferior lid being first turned down, the pencil is lightly carried over it, so as to whiten its surface; the same operation is repeated for the upper lid, and for the spots of the ocular conjunctiva which are most severely affected: the cornea should on no account be touched. An injection of water is made immediately afterwards in order to wash away uncombined portions of caustic; four, five, or six hours later, if the swelling and pain are undiminished—if the secretion is not thinner, more sanious, and less abundant---the cauterization should be repeated, and should be renewed a third and even a fourth time, in case the persistency of the symptoms happens to require it. When chemosis is very considerable it should be excised, and if purulent be freely scarified; these operations should follow, not precede cauterization. in order that hæmorrhage may not interfere with the action of the caustic. During the two years which we passed in the wards of Dr. Ricord, as *interne*, eleven cases were admitted in which these precepts were attended to, and their value will be properly judged of when we say that the eyes were preserved in all the patients.

Medical Times, Oct. 24, 1846, *p.* 59.

185.—*On Artificial Light.*—By WM. WHITE COOPER, Esq.—When the eye is exposed to light in which the red and yellow rays prevail, the colours in excess, produce, first an excitement, and afterwards a degree of debility of the retina. Consequently that light which approaches the nearest to white is best suited to the eyes, and that which partakes most of red, the worst. Another cause of the injurious effects of artificial light, is the direct and concentrated manner in which it acts upon the eyes. The rays from a candle or lamp fall direct upon the object which a person is regarding (the page of a book or sheet of writing-paper for instance), and are thence reflected into the eyes, carrying with them a considerable quantity of heat, which irritates and inflames the external coats of the eyes, and the lining membranes of the lids. A great portion of the heat which accompanies the sun's rays, is absorbed during the repeated reflections from the atmosphere and clouds, or from the surface of the earth, which the light undergoes before it reaches the eyes.

Another cause of the distress produced by artificial light upon some eyes, is the fact of the rays not falling in parallel but divergent lines upon the object, from which they are reflected in equally divergent lines; consequently, indistinctness of vision results from the want of definition of the object; whereas the rays of the sun, owing to its immense distance from the earth, may be regarded as parallel. The unsteadiness of artificial light is another serious evil to persons suffering from weak eyes. One great superiority of daylight over artificial light, is its perfect evenness. It is some inequality, either in the current of air, or in the supply of combustible material, that renders the common flame unsteady and varying."

Among the various kinds of artificial light, Mr. Cooper disapproves of that from *gas*, owing to its yellow colour and heating power, these rendering it injurious to the eyes when employed upon minute objects. It evolves carbonic acid also in large quantities, and some of the gas escapes unconsumed; so that it should never be employed in apartments, unless some special means for their ventilation is also in operation. The *camphine* lamp burns with a pure flame possessed of great power of illumination; but it should not be brought too near the book, or ordinary candle-light will in future be found insufficient. "By the injudicious employment of too brilliant a light, for the purpose of study, the sensibility of the retina may be blunted by slow and imperceptible degrees, without the patient being alarmed by any sudden impairment of vision, or marked difference in his sight." The light of a well-constructed Argand Lamp is of a very superior description. Mr. Cooper recommends *wax candles* for those who employ their eyes by night, as affording sufficient illumination without fatiguing or heating the organs. "I find, from experience, that the light they afford enables me to write longer with less distress to the eyes, less irritation of the lids, and a greater amount of general comfort than any other." Composition candles formed of stearine and wax, also give an excellent light, and are less expensive. As artificial light proves injurious from an excess of the red and yellow rays, much of its inconvenience may be obviated by surrounding it with a shade coloured blue in its inner side, which reflects a whiter or purer light. The same object may be attained by using a pale blue glass chimney for the lamp, or allowing the light to pass through a bluish fluid. Contrivances of this kind are to be preferred to wearing shades or spectacles.

Medico-Chirurgical Review, Jan. 1847, *p.* 207.

MIDWIFERY,

AND

THE DISEASES OF WOMEN.

186.—ON THE INFLUENCE OF FAINTNESS ON COAGULATION OF THE BLOOD.

By the late W. Hewson, Esq., F.R.S.

[We give the following from an excellent review of "The Works of William Hewson, F.R.S., edited by Mr. Gulliver," in the Medico-Chirurgical Review. It is especially interesting with reference to the treatment of *uterine hæmorrhage* now so much talked of. Practitioners ought to be more cautious in the administration of stimulants in these cases. This practice has been sadly abused.]

There is no part of these works which may be perused with more advantage than that which treats of the influence of faintness on the process of coagulation, and of the principles that should be observed in the treatment of hæmorrhage. It seems that Hewson was led to investigate this subject by an observation of Dr. Hunter to the effect, that the faintness which comes on after hæmorrhage, instead of alarming the bystanders, and inducing them to support the patient by stimuli and cordials, "should be looked upon as salutary, as it seems to be the method Nature takes to give the blood time to coagulate."

Suspecting that the disposition to coagulate was increased in those cases where the vital powers were weakened, the author performed the following conclusive experiment:—"Believing it would be sufficient for this purpose to attend to the properties of the blood, as it flows at different times from an animal that is bleeding to death, I therefore went to the markets, and attended the killing of sheep; and having received the blood into cups, I found my notion verified. For I observed, that the blood which came from the vessels immediately on withdrawing the knife was about two minutes in beginning to coagulate; and that the blood taken later, or as the animal became weaker, coagulated in less and less time; till at last, when the animal became very weak, the blood, though quite fluid as it came from the vessels, yet had hardly been received into the cup before it congealed. I have also repeated the experiment, by receiving blood into different cups at different times, whilst the animal was bleeding to death; and though the time taken up in killing the animal was not commonly more than two minutes, yet I observed, on comparing the cups, that the blood which issued last coagulated first."

The truth of this conclusion, shaken for a time by the experiments of the late Mr. Hey, was fully established by the valuable researches of Mr. Thackrah: and must ever be regarded, in respect to the means of suppressing hæmorrhage, as one of the most fundamental principles connected with the blood. Although so much has been since written on this subject, the admirable observations of Hewson leave little to be desired.

"As hæmorrhages," he says, "seem to be stopped, partly by a contraction of the bleeding orifices, and partly by the coagulation of the blood, and as the disposition of the blood to coagulate is increased by weakening the body, and likewise the contraction of the bleeding orifices is promoted by the same means, it is therefore evident that the medicines to be used should be such as cool the body, and lessen the force of the circulation; and experience teaches us that such are the most efficacious. It likewise shows that all agitation of mind and all bodily motion should as much as possible be prevented; because they increase the force of the circulation, and are thence unfavourable to the stopping of the hemorrhage. But that languor and faintness being favourable to the coagulation of the blood, and to the contraction of the bleeding orifices, should not be counteracted by stimulating medicines, but, on the contrary, should be encouraged. And as evacuations weaken the body more when they are sudden, we see a reason why blood-letting should be advisable in hæmorrhages, and why a large orifice should be preferable to a small one, when we want to produce that languor or faintness, or that weak action of the vessels, so useful for the stopping of the hæmorrhage."

Medico-Chirurgical Review, Jan., 1847, *p.* 8.

187.—ON THE NATURAL METHODS OF SUPPRESSING UTERINE HÆMORRHAGE.

By Dr. Radford, Manchester.

The following is an enumeration of the natural anti-hæmorrhagic powers:—1st, syncope; 2nd, coagulation of the blood; 3rd, effusion of lymph, and obliteration of the vessels; (?) 4th, re-union of the detached portion of the placenta to the uterus; (?) 5th, death of the child; 6th, uterine contraction; 7th, spontaneous rupture of the membranes; 8th, spontaneous separation of the placenta.

Sudden and profuse gushes of blood speedily produce fainting; but slow and dribbling hæmorrhages continue for a considerable length of time without producing this effect. Although these latter kinds of flooding do not so suddenly depress the vital powers, yet they insidiously undermine them; and in many of these cases, the life of the patient is ultimately placed in more jeopardy than in those of the former class, provided the patient, in these cases, is not immediately destroyed.

[With regard to syncope, Dr. Radford remarks that as it is sometimes the precursor or harbinger of death, we should be very cautious in distinguishing between salutary and mortal syncope. He observes:]

If this state of the vital powers is produced by a large and sudden, but not continued, gush of blood, or by a less quantity lost when the patient is in the erect position,—then, conditionally, it may be considered as likely to be useful; but if, on the contrary, the hæmorrhage has been going on for a long time, although slowly, yet insidiously, and thereby at last producing the accumulated effects of loss of blood upon the system, we must view it as the prelude of death. By its salutary power, the action of the heart and arteries are at first totally suspended, and afterwards lessened in force and frequency, by which less blood is sent to the uterus, and time is afforded for coagulation to take place within or in the immediate vicinity of the vessels.

When blood is effused it speedily coagulates if there exists any substance which affords a *point d'appui* for the commencement of this process. It is said by physiologists, that the blood is more disposed to assume this change in case of excessive hæmorrhage. When one of the umbilical arteries or veins is ruptured within the substance of the placenta, and the structure of the uterine and fœtal surfaces are uninjured, the effused blood, being confined, soon forms a clot which effectually stops further bleeding. Other similar accidents happen during the same pregnancy in different parts of the placenta; but if the injury extends through either surface, coagulation does not so readily take place, as the blood so readily escapes, externally into the vagina, or internally into the amnion bag, according to the situation of that portion of organ which is disrupted. The pathological characters of clots which form and are seen on the substance of the placenta, vary according to the length of time which has elapsed since the accident. Sometimes hæmorrhage happens between the uterus and the placenta, and is confined in the centre by the circumference of this latter organ firmly maintaining its adherence. If this effusion is not great, coagulation takes place, and subsequent changes are accomplished, so that pregnancy goes on.

In disruptions of the placenta, the coagula form in its interstitial structure. In several fatal cases of post-partum hæmorrhages, in which I have examined the uterus after death, I have found a small portion of adherent placenta, whose structure was so entirely pervaded with coagulated blood, as at first to be mistaken for a clot, but on a more minute examination, its true character was discovered. In another fatal case of this kind, the practitioner, in his report of the post-mortem examination, represented the infiltrated portion of placenta as a polypus.

Coagula form within the uterine venous openings, upon and in the interstitial tissue of the placental tufts which enter into them, and are found left after the separation and expulsion of the placenta. The meshes of the decidual membrane afford a surface upon which coagula form and adhere. Dr. Blundell and other writers speak in the highest terms of the anti-hæmorrhagic powers of the large clots of blood which form in and fill the vagina, but which, in my opinion, are over-rated. Although I do not admit that they prove as valuable a resource in flooding as has been mentioned, yet I would caution the obstetrician not to rashly remove them, for if they do not directly arrest the bleeding, they indirectly assist, by giving support to those formed above the interstitial, placental, and decidual substance, which are of the greatest utility. Nevertheless, the presence of coagula in the vagina ought never to interfere with our more important duty to explore, so as to ascertain the condition of the os and cervix uteri, the presentation of the child, or if the placenta is abnormally fixed.

[In the majority of cases of hæmorrhage the child is born alive; but when there is a dead child, we have never any great degree of flooding; for upon the death of the child the placenta ceases to exercise that derivative influence upon the uterine vessels, which is such an important part of its function in the normal state. Dr. Radford says that he has invariably observed, in labours where the child was dead, that both the hæmorrhage following the expulsion of the placenta, and the lochial discharge, were diminished in quantity. Among these cases were four of placenta prævia.]

Lancet, March 20, 1847, *p.* 226.

138.—*On the Source of Hæmorrhage in Placenta Prævia.*—By Dr. Radford.—[To understand this subject an accurate knowledge of the various textures in the gravid uterus, both as to their anatomy and physiology is necessary; as well as an exact account of the changes, normal, and abnormal, which take place in them during labour. Some of these points Dr. Radford discusses: he says,]

The uterine arteries bear no proportion, in either number or size, to the veins; but they are endowed with higher vital properties than these vessels, having the power to contract and retract. On the contrary, the veins are altogether devoid of these qualities, and entirely depend on the contraction of the uterus to produce a diminution in their calibres. They are arranged in tiers; but they so freely inosculate, as in reality to render them subject to the same results, when the womb is inactive, as if there was only one continuous vessel, more especially so as they possess no valves to prevent the reflux of blood. They terminate in the internal surface of the gravid uterus by large openings, which can be obliterated only by normal uterine contraction. The above facts, and a more comprehensive knowledge of the anatomy, physiology, and pathology of the gravid uterus and its contents, and the normal and abnormal changes which take place during labour, enable us to account why such immense discharges of blood take place, when the placenta is

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only partially separated, and the uterus is in a passive condition. When this partial detachment has happened, a cause exists, which soon excites abnormal or irregular contraction. In all cases of floodings which occur during the latter months of pregnancy, or in labour, several effects are produced by this accident:—Firstly, the utero-placental vessels are lacerated; secondly, the large venous openings are exposed; thirdly, sometimes, and indeed, not unfrequently, there is laceration or disruption of the placental structure, whereby the ramifications of the umbilical arteries and veins are more or less torn through. There are, then, always two surfaces exposed, upon each of which vessels are laid open, which sometimes pour out blood in such torrents as to deluge the bed, and the floor of the room, and places the life of the woman in the greatest jeopardy, and, indeed, sometimes destroys her by the first gush. When the placenta is only partially separated, the blood which is lost is chiefly venous, and mostly comes either directly from the great venous apertures, or indirectly in its course from the placenta. The utero placental arteries which are torn, pour out little blood, being of small size, and having an inherent contractile power. The nature of the injury which has been inflicted upon their coats, lessens the chance of bleeding from their extremities. We know that when a uterine polypus is removed by torsion no bleeding happens. A limb may be torn from the body by machinery, and no hæmorrhage ensue. On the contrary, the veins are very large and numerous, and if we could accurately measure their length and calibres, and then compute the aggregate admeasurement, we should find it equal to the size of a very large cavity, which would contain an immense quantity of blood. The veins therefore may be collectively considered as a large reservoir. But the blood which is discharged is not alone that which they contained when the flooding begun, but also that which continues in the course of circulation, to pass into them. Nor does the discharge only proceed from the lower tier of veins whose mouths are opened by the separation of the placenta; but also the whole of the vital fluid which this system of vessels contained, runs off, as they have no valves to prevent its return towards, and consequently its discharge into, the uterine cavity. The amount of loss does not always bear a proportion to the extent of the separation of the placenta, but stands in an inverse order. In some cases it is great, although the degree of separation is small, and *vice versâ*. The concurrence or absence of a variety of contingent circumstances lead to these different results. Such are the following:—The constitution of the woman; the state of the general vascular system; the organic state of the abdominal viscera; the state of the uterine fibre, more especially in the vicinity of the placenta; the mode of separation of the placenta; the venous extremities being patulous or blocked up by portions of disrupted placental tufts. When the structure of the placenta is injured, the blood issues from the umbilical vessels, which is partly arterial and partly venous. It is greater or less in quantity, according to the extent of the mischief.

In cases of placenta prævia, the texture of the after-birth is disrupted by the pressure and contusion it sustains from the child's head. When the labour is long, whilst the os uteri remains rigid, or only partially dilated, both further separation and laceration of the placenta is produced by the head being forced down upon it, so as to push it against, and partly through, this circle. This organ is injured by rude examinations, and also by the unjustifiable practice of tearing a portion away, which is recommended by high authority, to enable the obstetrician to come to a correct diagnosis When flooding takes place from simple separation of the placenta, the blood is chiefly discharged from the maternal vascular system, and the woman suffers in proportion to the loss, or relatively to her power to bear it. The child suffers comparatively little at first, and probably ultimately more by its being deprived of the vivifying influence of the maternal blood, than on account of a direct loss from its own system. But when the organization of the placenta is broken into, the effects upon the child are very different; the blood now comes from its own vessels, and cannot flow long without causing its death. When born, the blanched white surface of its body is strong evidence of the fatal cause which has led to it.

I have endeavoured, in the preceding remarks, to show that the hæmorrhage always proceeds from two, and sometimes, three sources, and that it comes not alone from the surface of the placenta, which is partly separated from the uterus: if further evidence is wanted to prove that the blood is profusely poured out from the open extremities of the veins, we have only to recollect that serious and fatal post-partum hæmorrhage frequently occurs when both the child and the placenta are delivered or expelled.

Lancet, Feb. 27, 1847, *p.* 219.

189.—ON PLACENTA PRÆVIA.

By B. Tallan, Esq. Colne.

[The subject of the present case, in her sixth pregnancy, had occasional hæmorrhage for a week before the commencement of labour. She had then slight pains, each accompanied by a gush of blood; and after this flooding had continued for eighteen hours, Mr. Tallan was sent for. He found the patient in the most extreme state of collapse, and his first care was the administration of stimulants. On examination, the bed clothes were found completely saturated with blood; and the woman, to use Mr. T's expression, "literally swam in gore." He proceeds to say:]

The vagina was filled with clots, through which a continued dribbling was going on. With one finger I was not able to reach the os; but with two I could perceive it was dilated to at least the size of a crown-piece, with the placenta partly attached; there were no pains. I therefore plugged the vagina, and continued my endeavours to rally her; I also gave some strong doses of ergot along with the brandy. I was now joined by Dr. Doyle, who agreed that it was a desperate case, and advised her being delivered. She being now rather improved by the stimulants, though the hæmorrhage continued, I introduced my hand, separated the placenta all round, and turned. Having brought down the feet into the vagina, I rested, and continued the ergot and spirits. No pain, however, coming on, I removed the child, which was closely followed by the placenta. Dr. Doyle continued to keep up pressure with his hands on the uterus, which contracted; but our patient gradually sunk, and died in about three-quarters of an hour from the removal of the child. From the time I saw her, until her death, she did not lose much more than four ounces of blood. The following questions present themselves to my mind: Should I have contented myself with plugging the vagina, &c., and not have delivered? or should I have contented myself with merely separating the placenta? As it was, I do not think anything would have saved her; but what would be the best plan in a case not so far gone?

Lancet, Nov. 14, 1846, *p* 527.

[These questions of Mr. Tallan are answered in the following way by Dr. Radford, of Manchester, whose opinion on such a subject we should always listen to with attention. He says:]

When the vital powers are thus depressed, we ought not to have recourse to any operation by which they are further lowered. Under these circumstances, then, delivery ought not to be had recourse to; first, because there is invariably an increased exhaustion produced by the excitement arising from the efforts of the practitioner, which are made to dilate the os and cervix uteri, and to extract the child; secondly, because an increased loss of blood inevitably takes place in cases of placenta prævia, during the operation; and thirdly, because syncope, or a tendency to it, is induced, by suddenly emptying the uterus.

Although I have the greatest confidence in the use of the plug, at an early period, in cases of placenta prævia, when delivery cannot and ought not to be performed, in order to save blood during the time which elapses whilst the preparatory changes take place in the os and cervix uteri, so that this operation can then be safely undertaken; it cannot be denied that it becomes a dangerous expedient in cases of extreme exhaustion, so long as the placenta is only partially separated from the os or cervix uteri.

The secale cornutum is totally inapplicable to cases of flooding where the energies of the woman are so low, because it tends further to depress the nervous system.

The complete detachment of the placenta is a practice which I have already advocated in such cases as the one under consideration; and if this plan had been trusted to, without proceeding to the extraction of the child, there is no doubt in my mind that a better chance to rally would have been given to the patient. What could be the object of first completely detaching the placenta, and then delivering the child? The complete detachment of the placenta has been recommended by me to supersede the necessity of the hazardous operation of delivery in these cases of exhaustion.

Galvanism is the agent to be employed in these cases of nervous depression from loss of blood; it not only rouses the energies of the uterus, thereby enabling the practitioner to deliver when timely required, without, at the same time, making the least demand upon her already exhausted powers, which is the case when we have recourse to the manual operation of version and extraction of the child; but it is also a powerful general stimulant, and raises the power and action of the heart. This happy result I have observed in several cases, and the power in question gives to this agent a great superiority over the secale cornutum in such cases.

Since my former communication on the use of galvanism, I have used it in several cases of flooding and also of tedious labour, and I am only further convinced of its great value as a remedial means.

[Mr. Harvey, of Castle Hedingham, differs from both Dr. Radford and Mr. Tallan. He says:]

In such a case I should not have plugged the vagina, and for this reason—namely, that the plug might, and probably would, have prevented the flow of blood externally, but would not have prevented its flowing internally, and distending the uterus, which would be equally dangerous. As there could be no doubt about the death of the child, I should have instantly extracted the placenta, and delivered, by turning, as speedily as possible, pressure being kept on the uterus by the hands of an assistant. This pressure might have been continued afterwards by the use of the basin, as I have described in the Medical Gazette, Jan. 30, 1846, and in The Lancet of about the same date. The recumbent position, open windows, and the administration of ergot and brandy, I regard as very judicious; but in a case of such extreme exhaustion, all our efforts are, unfortunately, likely to prove unavailing.

Lancet, Dec. 5, 1846, *p.* 625.

[The treatment of such a desperate case would, in our opinion depend upon—1st. the state of the os uteri; 2nd. the amount of hæmorrhage, and, 3rd, the degree of exhaustion. We confess, that notwithstanding all the plausible reasons which have lately been given for extracting the placenta in such a case, and then waiting till the powers of the patient should be rallied, we should still prefer having recourse to the old method of introducing the hand as speedily as possible, turning and extracting the child, then extracting the placenta, and lastly, promoting contraction of the uterus in every possible way, keeping up the pulse of the patient by gentle stimuli, but not by the large doses of brandy which are generally given. Our practice in the case of Mr. Tallan would be as follows:—

1. If possible, introduce the hand, and turn as speedily as possible—extract the placenta—promote contraction of the uterus—keeping up at the same time, the pulse of the patient, as well as we could. These steps, we think, may always be adopted when the os

uteri is sufficiently relaxed or dilated. If, however, the os uteri would not admit of this manipulation, or if the patient were too completely exhausted, we should proceed (2ndly.) to separate the placenta from the uterus,—leaving it in its place or not, according to circumstances,—if possible, rupture the membranes with the finger, (the nail being cut to a rather sharp point for this purpose), plug the vagina most completely, and even the os uteri itself, so that scarcely a drop of blood could escape, and give a large dose of secale cornutum, (which ought to be infusing while the other steps are being adopted, and might be given even before they are commenced, if by chance it could be prepared), promoting contraction of the uterus by other means—such as galvanism, cold applications, &c. If the patient's pulse rallied, we should then withdraw the plug, and ascertain the state of the case; and, if the os uteri permitted, we should introduce the hand, and turn. If this could not be done, and if hæmorrhage still continued, we should plug again, and wait as before.

It will be perceived that we differ from Dr. Radford when he says that the plug "becomes a dangerous expedient in cases of extreme exhaustion, so long as the placenta is only partially separated from the os or cervix uteri." If we could safely depend upon the separation of the placenta for the suppression of the hæmorrhage, we allow that the plug would be uncalled for; but here we have a case where the loss of a few more ounces of blood, and a few more moments, may terminate the life of the patient. We think, therefore, that the practitioner has only the choice of two things; either 1st. to deliver immediately, or 2nd. to stop the flooding at once. We contend that there is not time to trust to galvanism, nor to ergot of rye; and as to the danger of internal bleeding, we do not see that it is more dangerous than external bleeding; but we think that cases in general contradict the opinion that when the plug is used, bleeding occurs internally to any great extent. The ruptured placenta is very low down, and consequently a very slight collection of coagulum at the mouth of the womb, will be sufficient to plug the bleeding vessels, without supposing that the coagulum goes on extending up the sides of the womb to its fundus. If the placenta were situated at the fundus uteri, there might be some force in the argument. In such a case, we acknowledge that the uterus might have every unoccupied space filled with blood, before the hæmorrhage ceased; but the facts of these placental presentations are different.

We confess that in such a case as Mr. Tallan's we should not blame any practitioner for adopting either of the alternatives we have named; but if the patient was not almost dying, we think we should adopt the steps in the order which we have just recommended.

We are confirmed in this opinion respecting the value of the plug in the production of a coagulum, by the following excellent remarks of Dr. Barnes. He observes, that in partial placental presentation, a period arrives when the hæmorrhage ceases, though the placenta is still in the greater part of its extent attached to the uterus. In a case which occurred to him, the placenta was implanted over the posterior part only of the cervix, and the hæmorrhage ceased when the os uteri became dilated. This he explains in the following manner:]

The detached portion of placenta had become plugged up by coagula, and *the remainder of the placenta, being attached to the body of the uterus, was not liable to become separated during the contractions of that organ.* It was in fact reduced to the normal condition, in which the placenta is attached wholly to the fundus uteri. In this condition, no part of the placenta being opposed to a portion of the uterus which is exposed to a greater degree of contraction than the remainder, it is not subject to partial detachment, and consequently to hæmorrhage.

The preceding facts establish a most valuable indication in practice. They serve to show that Nature, if closely watched, may, at least in partial placental presentation, be trusted to more than is generally admitted. They serve to show that turning, and Dr. Simpson's plan of artificially detaching the placenta, (which, it must be admitted, is in itself a severe and even dangerous operation,) may be sometimes dispensed with altogether, and in most cases be deferred. They justify a stronger reliance on the use of the plug or tampon, which is an easy and a harmless operation. Supposing you are called to a case of flooding from partial placental presentation, where, although the hæmorrhage has been abundant, still the patient's strength is good; the os uteri is scarcely at all dilated; it is rigid. In such a case, in order to effect either turning or total separation of the placenta, the hand must be forced through the os uteri at the risk of laceration, and the other dangers attending those formidable operations. But if, by plugging the vagina, you promote the blocking up of the bleeding orifices by favouring the coagulation of the blood, you may safely reach the period when the os uteri shall be fully dilated, and when that portion of the placenta which had been adherent to the cervix has been wholly detached and further hæmorrhage precluded by the sealing up of the detached placental surface. The remainder of the placenta, though still adherent, as it expands and contracts with the expansion and contraction of the uterus, will not bleed. If by following this practice you can safely bring your patient to the termination of the first stage of labour—viz., the complete dilatation of the os uteri, the case is resolved into one of natural labour, and unless any other complication arises, may be treated in the usual manner.

Lancet, March, 27, 1847, *p* 329.

[The following remarks on Mr. Tallan's case, though anonymous, are evidently by a very practical man, and well deserving of attention. He need not have been ashamed of signing his name to so pithy and useful a remark.]

I should say, that from the advanced stage of the case, the loss of blood, and exhaustion, the os uteri was sufficiently dilated to

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admit the hand; with the greatest caution, care, and gentleness, it was then to be insinuated through the detached portion of the placenta, and between the membranes and uterus; if the liquor amnii had not come away, to lay hold of the feet of the child, and the membranes being broken, the delivery might have been carried on; or if the liquor amnii had come off, the hand was to be passed through the ruptured membranes, and the labour carefully conducted according to the art of turning. In the case of partial placenta prævia, before the os uteri is sufficiently dilated, no one doubts the efficacy of the common plug, with the other remedial resources used against hæmorrhage. But in the advanced stage, as in the case under notice, when the os uteri is sufficiently dilated, the hand passed up through it, as well as the membranes, if the liquor amnii remain, will act, in the first instance, as a plug, to lessen or prevent hæmorrhage to any alarming extent, and afterwards the passage of the child will be a security against it. With respect to hæmorrhage after the delivery of the child, if the state of the uterus and its contractions, as well as the general condition of the patient, be duly observed during the process alluded to, there is every hope of the placenta being expelled, and the contraction of the uterus guarding against any further loss of blood. Several high authorities in midwifery have arrived at this conclusion. The atony of the uterus might be met by pouring cold water on the abdomen, and the use of the ordinary remedies where action is requisite. But as to galvanism, the profession will have to examine its applicability for special and general effects. The total separation of the placenta, where it partially presents, would only be increasing an alarming hæmorrhage, which it is requisite to stop, for a larger surface of bleeding vessels would be exposed.

Lancet, Jan. 16, 1847, *p.* 73.

[Before full dilatation has taken place, Dr. Tyler, of Dublin, also thinks the plug may be used without any fear of internal hæmorrhage. He observes:]

The plug, when properly introduced, acts the part of a compress against the bleeding mouths of the vessels.

[In another part of his paper on Placenta Prævia Dr. Tyler sums up his opinions by saying:]

I would suggest the following course of practice to be adopted in all cases of placental presentation, where the practitioner has been in attendance from the commencement of hæmorrhage:—

1st. In cases of partial placental presentation, he should avail himself of the earliest opportunity to rupture the membranes, and evacuate the uterus of all its fluid contents.

2ndly. In the same class of cases, after the escape of the liquor amnii, should vigorous uterine action not ensue, to encourage this desirable end by means of friction over the fundus uteri, the application of a binder, the administration of ergot of rye, or the use of galvanism, as recommended by Dr. Radford.

3rdly. In complete placental presentation, when the os uteri is rigid and undilated, never to attempt to extract the placenta through it in that state, but to plug the vagina carefully by means of a soft sponge, previously steeped in cold vinegar and water.

4thly. As soon as the os uteri has been sufficiently dilated to admit of the introduction of the hand, to seize a foot and deliver cautiously.

5thly. Should there be no doubt of the child's being dead, and the head presenting, it may be delivered by the crotchet, after lessening its head.

6thly. As I attribute the entire cessation of the hæmorrhage which occurred in Dr. Simpson's cases, and those of others, after the extraction of the placenta, to the fact of the uterus being thereby entirely emptied of its fluid contents, and allowing the presenting part of the child to be pressed against the bleeding orifices of the uterine vessels, that in certain cases the placenta might be pierced with a gum-elastic or silver catheter, and the liquor amnii thus allowed to escape. This operation is applicable to cases where the feet present, or where craniotomy is decided upon (in head presentations), either on account of distorted pelvis, or from the fact of the child being dead.

Dublin Quarterly Journal, May, 1847, *p.* 365.

[M. Negrier concurs in the general opinion as to the extreme danger, in cases of hæmorrhage from placental presentation.]

He says, however, that "the cervico-uterine bleedings are almost the only ones which kill. Doubtless, bleedings from the walls of the body of the uterus may be fatal, but such cases are exceptions."

Although the early bleedings at the sixth and seventh month indicate a large insertion of the placenta at the cervix, still M. Negrier does not regard these cases as so dangerous as those where, towards the close of gestation, a sudden and large detachment of the placenta takes place, especially if it occur in a multipara. He considers the most unfavourable case possible to be as follows: "The placenta shall be very largely grafted on the walls of the cervix, but, notwithstanding this large implantation, the cervix should have increased till the normal term of gestation. It should not be a first pregnancy, and labour should have set in energetically and suddenly, by a very large separation of the placenta. In such circumstances, the hæmorrhage is so sudden and copious, that it almost always causes the death of the patient, whatever may have been the skill and promptitude of the treatment."

It is almost a constant practice, says M. Negrier, to bleed women who are attacked with hæmorrhage before the seventh month of pregnancy. Our author, however, does not fall in with this axiom. His views on this subject are thus summarily stated:—

Bleeding from the arm is a uselessly wasteful means to combat hæmorrhages from detachment of the placenta.

Bleeding is useless for the preservation of the fœtus whenever a third of the placenta is detached; and M. Negrier thinks that this is indicated with sufficient exactness when sixty grammes of blood flow in the course of an hour, and, excepting in special cases, such a loss will prevent gestation going on, in spite of bleeding.

Bleeding is particularly hurtful in placenta-presentations. An *exact* plugging of the vagina is the only effective means to suspend copious bleedings during gestation. The plug ought to be covered with a greasy and tenacious matter, and it ought *not* to be impregnated with vinegar.

In the second class of cases, where hæmorrhage comes on during labour, M. Negrier insists on the great importance of determining without delay whether the placenta presents or not. If it does not, and the os uteri is closed, the plug ought to be used to arrest the bleeding. When labour has set in actively, and the os uteri is supple, then the membranes ought to be perforated. This plan is contra-indicated if the child presents transversely, or if the pelvis is contracted. If the hæmorrhage continues after the rupture of the membranes, the plug ought again to be used, for the double purpose of arresting the bleeding and exciting the uterus to contract. The ergot of rye is now, too, very useful, excepting only when exhaustion from loss of blood is present, when it will not act. The uterus ought to be followed as the child is expelled, and its contraction secured by friction or circular compression of the belly. Stimulants are more needed at this time than opiates. The forceps ought only to be used when the head is low down in the pelvis, and well placed.

In the treatment of placenta-presentations, if the detached portion is large, and the loss of blood is great, every effort ought to be made to empty the womb, and version is the most prompt and efficacious means for this purpose. If the os uteri is unopened it ought to be forcibly dilated *(forcé)*—and in women who have had children it rarely offers any dangerous resistance. To perforate the ovum with the hope of lessening the bleeding, is a useless and absurd practice. When the orifice of the womb is completely blocked up by the placenta, we ought to search for the side on which it is stretched out the least, and detach the placenta from this part. If the placenta is very *largely* attached, and is adherent and thick to the touch, M. Negrier would, without hesitation, perforate it, in order to turn the child. Fœtal hæmorrhage from the tearing of the placenta, is rarely dangerous, if the extraction of the fœtus is quickly executed. The tearing away of a loose portion of the placenta to stay hæmorrhage can only be useful when the uterine neck preserves the form and consistence of a canal.

M. Negrier ends this subject by observing, "that the complete separation of the placenta before the extraction of the fœtus, and its expulsion from the uterus before the escape of the child, do not bring any modification to anti-hæmorrhagic means---they are complications which render the speedy emptying of the womb more imperious."

This is the general outline of M. Negrier's views on the cause, symptoms, diagnosis, prognosis, and treatment of placenta-presentations. We cannot but think that he has added very little to what was well known upon the subject. We need scarcely say that it is one of special present interest---an interest founded on the views of Dr. Radford and Professor Simpson. It appears from the last paragraph which we have quoted, as well as from a long footnote, that M. Negrier is not ignorant of the recent investigations on this subject. The note which we refer to is a running commentary on Dr. Radford's series of propositions on the class of cases in which the artificial separation of the placenta and the use of galvanism is applicable. They were published in the fourth number of the second volume of the Provincial Medical and Surgical Journal, and were copied into the Journal de Chirurgie, which is the source of M. Negrier's information upon them. It is beside our purpose to enter critically into the views of Dr. Radford and Dr. Simpson; but, in order to comprehend M. Negrier's comment, we copy at length Dr. Radford's propositions:—

First, As neither delivery nor detaching the placenta ought ever to be attempted until the cervix and os uteri will safely allow the introduction of the hand, rest, the application of cold, but above all the use of the plug, must never be omitted in cases where they are respectively required.

Secondly, If there are unequivocal signs of the child's death, the placenta is to be completely detached and the membranes are to be ruptured. The case is then to be left to the natural efforts, provided there be sufficient uterine energy, if otherwise, the ordinary means are to be used, and in addition galvanism.

Thirdly.—When a narrow pelvis exists in connexion with placenta prævia, the practice is to detach the placenta and to remove it, then to perforate the head as soon as the condition of the parts allow, and to extract it by means of the crotchet.

Fourthly. When the os uteri is partially dilated and dilatable, so as to allow the easy introduction of the hand, when the membranes are ruptured and strong uterine contraction exists, the practice is to detach the placenta completely.

Fifthly. In all cases of exhaustion, as already referred to in my paper, the practice is to draw off the liquor amnii by perforating the placenta, as there recommended, then to detach completely this organ and apply galvanism.

Sixthly. In all cases of partial presentation of the placenta, the artificial rupture of the membranes will generally be found sufficient to arrest the hæmorrhage, but if that should prove ineffectual then we must apply galvanism.

Dr. Simpson has also shortly indicated a class of cases in which the artificial detachment of the placenta may advantageously be had recourse to. "I believe it will be found," he says, "the proper line of practice in severe cases of unavoidable hæmorrhage complicated with an os uteri so insufficiently dilated and undilatable as not to allow with safety of turning; in most primipara; in many of the cases in which placental presentations are (as very often happens), connected with premature labour and imperfect development of the cervix and os uteri; in labours supervening earlier than the seventh month; when the uterus is too contracted to allow of turning; when the pelvis or passages of the mother are organically contracted; in cases of such extreme exhaustion of the mother as forbid immediate turning or forced delivery; when the child is dead, and when it is premature and not viable."

In these views of the above-quoted authorities, M. Negrier does not participate. He has intentionally, he says, omitted to speak of galvanism, because it has not the sanction of French accoucheurs. Even admitting the facts of Dr. Radford as to the powerful influence of galvanism, he doubts its power in contracting the walls of the neck of the uterus, because this part does not, in his opinion, enjoy the sort of contraction which the walls of the body of the womb do. "Dr. Radford's first and sixth propositions expressed only admitted facts. The third proposition is irrational. It is at least useless in a case of pelvic deformity requiring craniotomy previously to detach and extract the placenta."

According to M. Negrier's anatomical and physiological views, the practice which is advocated in the fourth proposition is dangerous and useless.

With reference to the fifth proposition, M. Negrier speaks of the proposed operation as the more rational, because the placenta itself, which under the influence of induced labour would necessarily be detached, would offer but little impediment to the passage of the child.

He thinks that galvanism can only be used in maternity charities, as it would take at least one hour to get the apparatus in order for use, supposing a practitioner possessed it, and this delay in severe cases is not often allowed to the accoucheur. What, too, would country practitioners do unless they carried it always with them? M. Negrier makes no further commentary on Dr. Simpson's papers. M. Jacquemier has not noticed the subject.

It appears to us that M. Negrier does not in the least appreciate the important fact, that hæmorrhage is known to cease when the placenta is completely separated from the surface of the womb. Dr. Simpson has undeniably proved this from the 141 cases which he has collected, in which the placenta was expelled or extracted before the child. We apprehend that this standing fact does not admit of controversy. The reputed fatality of the operation of version in placenta-presentations, as gathered from statistics, may be, and we think is, over-rated. Dr. Simpson may or may not be right as to the source of hæmorrhage in these cases; the placenta may not be so readily detached in difficult cases as Dr. Simpson supposes, but nothing of this kind affects the fact, that in a case of unavoidable hæmorrhage, where a woman's life is in danger from bleeding, and the womb cannot be emptied by turning, that the bleeding may be stopped by separating and removing the placenta. For our own part we are disposed to accept this fact, and the practice founded on it, as a most important aid in these most trying and anxious cases. It is not designed to supersede the practice of turning, but it is designed to come into operation where this great resource fails us. Since Dr. Radford's and Dr. Simpson's papers several cases have been recorded, bearing out the practical views of these accoucheurs, and we have no doubt but that they will eventually be established as rules of practice in certain cases of unavoidable hæmorrhage. As to the value of galvanism in these and other cases, we still need a large collection of facts, before its just value as a remedial agent can be established. The most recent investigations on it, as applied to midwifery, do not promise so much for it as might have been expected. But we hope Dr. Radford will again publish on this subject-

Medico-Chirurgical Review, Jan., **1847,** *p,* **61.**

[We think that Dr. Simpson's opinions have very frequently been misunderstood on the subject of detaching the placenta in cases of placenta prævia. Many writers argue as if he recommended this practice as a *general rule*, whereas Dr. Simpson has always argued that this method is only to be had recourse to "in cases where the other recognized modes of management were insufficient or unsafe or altogether impossible of application." Hence he again recapitulates his views in the following extract taken from a valuable paper in The Lancet:]

Artificial Separation of the Placenta.—The arrestment of unavoidable flooding by total detachment of the placenta should, I believe, be our line of practice when the combination of circumstances is as follows—viz , the hæmorrhage is so great as to show the necessity of interference, and is not restrainable or restrained by milder measures, (such as the evacuation of the liquor amnii); but, at the same time, turning, or any other mode of immediate and forcible delivery of the child, is especially hazardous or impracticable, in consequence of the undilated or undeveloped state of the os uteri, the contraction of the pelvic passages, &c. Or, again, the death, prematurity, or non-viability of the infant, may not require us to adopt modes of delivery, for its sake, that are accompanied (as turning is) with much peril to the mother, provided we have a simpler and safer means, such as the detachment of the placenta, for at once commanding and restraining the hæmorrhage, and guarding the life of the parent against the dangers of its continuance. Hence, as I have elsewhere stated, I believe that the suppression of the flooding by the total detachment of the placenta will be found the proper line of practice in severe cases of unavoidable hæmorrhage, complicated with an os uteri so insufficiently dilated and undilatable as not to allow of version being performed with perfect safety to the mother: therefore, in most primiparæ; in many cases in which placental presentations are (as very often happens) connected with premature labour and imperfect development of the cervix and os uteri; in labours supervening earlier than the seventh month; when the uterus is too contracted to allow of turning; when the pelvis or passages of the mother are organically contracted; when the child is dead; when it is premature, and not viable; and where the mother is in such an extreme state of exhaustion as to be unable, without immediate peril of life, to be submitted to the shock and dangers of turning, or forcible delivery of the infant. This enumeration is far from comprehending all the forms of placental presentations that are met with in practice; but it certainly includes a considerable proportion of the cases of this obstetric complication, and among them, all, or almost all, of the most dangerous and most difficult varieties of unavoidable hæmorrhage. In adopting the practice, one error, which I would strongly protest against, has been committed in some instances. Besides completely detaching and extracting the placenta, the child has subsequently been extracted by direct operative interference. If the hæmorrhage ceases, as it usually does, upon the placenta being completely separated, the expulsion of the child should be subsequently left to nature, unless it present preternaturally, or the labour afterwards show any kind of complication, which of itself would require operative interference under any other circumstances. Both to detach the placenta and extract the child would be hazarding a double instead of a single operation.

Lancet, May 8, 1847, *p.* 480.

190.—*Placenta Prævia, without Hæmorrhage* ---By T. Lloyd, Esq., Medical Officer, East London Union, &c.---Mrs. J——, residing in Sharp's-court, Thames-street, aged fifty, has had fifteen children, all single births; the latter three or four of which I attended her were all born dead and decomposed. On the morning of the 5th of September last, being then, as she considered, in the end of the 9th month of gestation, I received a summons to visit her, and I was requested to go immediately, "as something had come away." Upon my arrival, I found a large hardened placenta, weighing about four pounds, with the umbilical cord attached; on tracing which up, I found the abdomen of a child presenting: in fact, the usual order of things was just reversed; the child was within, and the placenta without, the womb. There had been a very large discharge of liquor amnii, of a greenish colour, in the bed; (perhaps a couple of gallons,) but not the slightest appearance of blood. I divided the cord in the usual manner, and was about to proceed to reach the legs of the child, for the purpose of completing the delivery, when a powerful pain came on. The cord, of which a considerable portion remained attached to the body of the child, and was lying in the bed without the vagina, was suddenly shortened; and on examining, I found the child completely turned: the vertex now presenting, and passing the brim. Two or three powerful pains succeeded, and the child was born without further interference. It appeared to be about an eight months' child; the abdomen was dropsical, and the cuticle somewhat decomposed. The uterus contracted firmly, and with the exception of feeling rather more than usually weak, she has not had a bad symptom, and she is, at the present time performing her usual domestic duties.

Lancet, Nov. 7, 1846, *p.* 515.

191.---*Retained Placenta.*---By Thomas Cattell, M.D., Braunston.---[We give the following method recommended by Dr. Cattell, although we cannot recommend its adoption in the cases referred to. Every man, however, has a right to have his own opinion. Dr. C. states that in many cases of uterine hæmorrhage, the introduction of the hand into the uterus is often impracticable and dangerous. We do not think so: especially not, soon after the birth of the child. Speaking of uterine hæmorrhage, Dr. C. says:]

The mode of treatment to be pursued will embrace---

1. Those cases of uterine hæmorrhage dependent on retention of the placenta.

In uterine hæmorrhage so frequently occurring from morbid adhesion of the placenta to the uterine surface, and as frequently repelling the influence of every ordinary measure adopted to effect its removal, the introduction of the hand certainly appears to offer the only chance of success. At least, such has hitherto been the case; but other modes may be had recourse to. For instance, the umbilical cord, and the venous structure of the placenta, enable us to supersede the difficulty, by the facility with which an injection passes through them; and if the injection be cold, of constricting the vessels of the deciduous coat of the uterus, and thereby effecting its separation.

The method of procedure is simply to empty the umbilical vein of any blood it may contain, and then, by the use of an enema or other convenient apparatus. injecting, with force and promptitude, cold water, slightly acidulated with acetic acid; or a cold decoction of ergot of rye; or solution of tannic acid; or, in fact, a cold solution of any of the medicines which we have named as applicable in the treatment of uterine hæmorrhage generally.

2. Those cases of retention of the placenta dependent on exhaustion, or inaction of the uterus, without the coexistence of hæmorrhage.

I have observed, in many cases of retained placenta, where there has been the absence of morbid adhesion, that such retention has been owing to exhaustion of the uterus from a protracted labour, or from other causes in which the uterus has sympathized or manifested this result. We also find associated with this, the entire absence of pain immediately on the expulsion of the child. In many of these cases I have delayed proceeding with any active measure for several hours, except by the administration of ergot of rye, circular friction of the external uterine region, and gentle pulling of the umbilical cord. And not any of these means have been attended with beneficial results until the renewed energy of the uterus became established. It is therefore evident, that unless we possess other and better means than those to which we have referred, cases of this description may often terminate unfavourably. Fortunately we have these means: the umbilical vein offers the same facility in this as in the foregoing case, with the exception, that as there is the absence of hæmorrhage, it will be only requisite to employ cold water slightly acidulated. Gentle compression of the abdomen should be made during the ingress of the injection. If one injection does not suffice, others may be tried. As to the danger supposed attendant on the use of cold injections in these cases, I think that, without the adoption of any precaution whatever, they succumb into absolute insignificance compared with the magnitude of the objects for which they are employed.

It is, however, as much the dictate of enlightened reason, as that common justice due to every case upon which the guardian of the public health is called to attend, to adopt every precaution against any ill consequences which might possibly flow from this, as from other remedial measures supposed to be associated with secondary results. With this view may be exhibited moderate and repeated doses of morphia, or some other sedative, so far to control nervous, as possibly to prevent the accession of vascular, action, either local or general.

The precautionary or curative measures are not, however, circumscribed to sedatives alone; it may be found necessary, in some cases, to combine antiphlogistic and diaphoretic remedies.

If any local treatment is required, injections may be employed, according to the judgment of the practitioner, and the nature of the case, in the manner previously stated.

Lancet, Dec. 19, 1846, *p.* 659.

192.—*Hæmorrhage from Inversio Uteri.*—By J. G. Crosse, Esq., Norwich.—[Although inversion after parturition may be fatal without much loss of blood, yet hæmorrhage is one of its most alarming accompaniments. Respecting this Mr. Crosse observes:]

Undoubtedly the most dangerous and profuse hæmorrhage is met with where the inversion has transpired rapidly, and, as it were, *spontaneously*, with the least interference from without, and where the placenta remains partly detached and partly adherent. Repeatedly the surgeon has observed the blood to flow from the surfaces exposed by this partial separation, but probably without correctly distinguishing from which of these two surfaces it proceeded, uterine or placental.

It cannot be denied that there are three sources from which the hæmorrhage may proceed, and which deserve to be separately considered—the detached surface of the partly adherent placenta, the uterine surface to which the placenta was affixed, and the rest of the mucous surface of the uterus. Whatever part of the uterine structure is in atony, or uncontracted, a certain degree of vitality still remaining, the corresponding mucous surface will be the seat of hæmorrhage, the sinuses being patent. The loss may be by a slow exudation, rather than active or considerable; and it will diminish or cease, as proper and perfect contraction of the organ is accomplished. So long, however, as the uterus, or part of it, remains soft, relaxed, and insensible to external impressions, the loss will continue. The best authorities, those most able as well as most experienced, represent the part of the uterus to which the placenta was adherent to be more frequently in atony than any other, being at the same time the almost constant seat of the commencing inversion, and the chief source of the uterine hæmorrhage. The placental is, however, the most active of all the sources of hæmorrhage; whether the maternal blood be obtained by absorption, or by direct continuity of vessels, it is rapidly obtained, or the loss from the free surface of the placenta could not be so abundant as has been many times noted. A correct knowledge of these physiological points is very influential in determining the required treatment. The living after-birth obtaining, by the part still adherent, the blood which flows from the surface of the portion detached, it is difficult to determine with any precision what is the proportion of these opposite states of the placental mass most conducive to the loss. It can scarcely be right to assert that the loss from this cause will be in direct proportion to the placental surface actually detached. It is testified by several writers that the hæmorrhage ceases, or greatly diminishes, on the placenta being wholly separated; and when we reflect that this separation takes place, especially when spontaneous, not by any change in the placenta itself, but by the active and normal contraction of the corresponding part of the uterus, the testimony will not be controverted. When only half the placenta remains adherent, the portion of uterus from which the rest has been detached is, perhaps, unfavourably circumstanced for contracting perfectly. The effect of completing the *decollution* is to place the uterus in a condition to contract; and the hæmorrhage ceasing, in so far as it was supplied by the uterine surface, depends on the contraction taking place. But the artificial separation of the placenta may be deemed less certain to put an end to hæmorrhage than the throwing off of the placenta by the spontaneous action of the uterus itself. The uterine contraction by which hæmorrhage is arrested precedes in the one case, and *may follow* in the other. Still, after the placenta is removed, if the part of the uterus to which it was attached do not contract, but remain in a state of inertia, or, as it has been denominated, *paralysed*, it may be expected that hæmorrhage will continue until such a degree of uterine action transpires as will close the sinuses. It will be advantageous, irrespective of all theory, to distinguish between the passive hæmorrhage, or gradual oozing from the imperfectly contracted portion of the uterus, and the active and rapidly destructive loss effected through the living and partially adherent after-birth.

The severe hæmorrhage in recent inversion mostly follows quickly upon the delivery. It may go on severely so long as the placenta remains partially attached, and, in so far as it is furnished by the uterus itself, continue for hours, or first show itself in a considerable degree when several hours, or even a day or two, have elapsed.

Provincial Transactions, Vol. iii. 1847, *p.* 279.

193.—*On the Injection of Cold Water, in Post-Partum Hæmorrhage.*—By Robert Selby, Esq., Bannockburn.—[During the last ten years, Mr. Selby has frequently resorted to this mode of treatment, and always with the best effects: he considers it preferable to the douche, and suggests that whenever hæmorrhage is expected, the apparatus should be in readiness. It is simply a double-valved syringe and an œsophagus tube: the latter is introduced into the uterus and retained there with one hand, which directs it all over the surface of the cavity, while cold water is freely injected.]

Lancet, April 3, 1847, *p.* 371.

[In a case of uterine hæmorrhage, related by Dr. Durrant, of Ipswich, oxide of silver, a grain three times a-day, effected a cure, after the failure of acetate of lead, and ergot. The discharge was very profuse; the patient being a woman of relaxed habit, and three months advanced in pregnancy,]

Prov. Medical and Surgical Journal, Dec. 16, 1846, *p.* 603.

194.—ON UTERINE DISEASES.

By E. Kennedy, Esq , M.D., Late Master of the Dublin Lying-in Hospital.

[Dr. Kennedy gives us some valuable observations on uterine diseases. As local treatment, in these cases, is of such immense advantage, we have first some useful hints on the employment of the speculum. Dr. Kennedy places the patient in the usual posture, on the left side, with the knees drawn up, and the head and shoulders low. He says:]

In primary examinations, where the object is to explore the interior of the vagina, as well as to evert the uterine lips, the use of the four-bladed speculum, is preferable. Subsequently, however, and where applications are to be made to the interior of the vagina or the os uteri, Ferguson's glass speculum, prepared by coating the glass with caoutchouc, having a layer of quicksilver interposed (thus converting it into a reasonably good reflector, and rendering it more luminous), answers remarkably well.

Whenever the os is displaced and difficult to catch in the field of the speculum, the expanding instrument is preferable, and its use attended with less inconvenience and delay. In some cases, where the neck projects directly backwards, it is impossible to expose it without placing the patient on her back, and elevating the pelvis above the level of the shoulders, but this is rarely necessary; the reverse occasionally holds good. The principal difficulty in catching the neck of the uterus in the field of the speculum arises from our pushing it aside in the introduction; an inconvenience most likely to occur when that portion is elongated or displaced. This may be prevented, by always making a careful manual examination, before introducing the speculum, so as to ascertain the exact position of the uterus, and direction of the os; when, upon introducing the instrument well up, and withdrawing the plug, if the os be not brought into view, the speculum may be gradually withdrawn, expanding it gently at the same time. By this means the neck will generally fall into the field of the speculum. In some cases of displacement of the uterus, or when this organ is very mobile, it is necessary to have it replaced, and retained *in situ* by the hand of an assistant pressed firmly from above into the pelvis. If these hints be attended to, the instrument lubricated, and introduced slowly and high up before withdrawing the plug, whilst the blades are gradually separated, and (if necessary) the vulva and vagina dilated by the previous use of tallow bougies, little difficulty or inconvenience can attend its use.

In some cases, as of acute vaginitis, any attempt to introduce the speculum is not only painful but highly injurious, until that affection is relieved by leeching and other means. Extreme congestion of the vagina, and extraordinary sensibility of the sphincter, also render its use inadmissible until these symptoms have been removed, and the parts reconciled to its introduction by the use of proper bougies.

The uterus, and particularly that portion of it projecting into the vagina, is very liable to inflammation, congestion, and their sequelæ. This, for obvious reasons, is more frequent in married than in single females, although by no means confined to the former. The depth of the part engaged, and its comparative insensibility, renders its affections not always well understood, or referable to their exact seat; and we are more frequently consulted for the effects and the inconveniences resulting from them, than for the primary attack. Thus chronic inflammation or congestion of the neck may continue for weeks or months, and, perhaps, until leucorrheal discharge, or ulcerative alterations, take place, no advice is sought. The practitioner then too frequently treats the symptoms, and overlooks the original disease, or by his very treatment aggravates and confirms it. Astringent and stimulating injections are almost invariably had recourse to; and cold aspersion, tonics, wine, porter, active exercise, &c., are esteemed essential for the cure of the debilitating discharge, as it is termed. The discharge certainly may be checked, but if it be, its primary cause is aggravated, and a simple, easily-managed affection is converted into an obstinate chronic disease.

[Instead of empirically ordering an astringent lotion because there is vaginal discharge, Dr. Kennedy says,—]

Let us inquire whether, in the first instance, the disease was induced by an assignable cause; whether pelvic, sacral, or inguinal pains were first observed, with heat and irritation about the vulva, or in the course of the vagina; whether this occurred consequent upon sudden suppression of the menses, after exposure to cold or local irritation—in connexion with cutaneous eruptions—after any marked change in habits of living, early exertion after delivery, or miscarriage; whether the discharge, when it appeared, was subsequent to these, and how long; whether it was consequent upon intercourse, miscarriage, pregnancy, or delivery; and how far the patient's general health may be connected with it? Having inquired into all these matters, if the disease do not yield to a properly directed treatment, or if circumstances warrant a further examination, let this be made, and let the patient be treated upon fixed principles, based upon a knowledge of the *real nature* of her case.

The uterus, like the rectum, is liable to retardation of blood in the venous vessels and capillaries, giving rise to congestion, engorgement, and even varix. The neck and body are more prone to this than the fundus,· a circumstance which, we imagine, may be accounted for by the anatomical distribution of its vessels, the blood in the fundus principally flowing to and fro in the spermatic vessels: whilst that in the neck and body returning by the hypogastric and iliacs into the cava, is more exposed to pressure from a variety of circumstances, but principally from distention of the rectum and cæcum, the enlarged uterus in pregnancy, and pelvic growths, &c.

Congestion of the uterus is a large subject, and one that demands much the attention of the profession; we shall now merely deal with it in connexion with some of those lesions of that organ which it is our present intention to notice. It is generally more or less combined with infiltration into the cellular tissue of the neck and parenchyma, and sometimes with disease of the lining membrane, partial or complete. It contrasts with chronic inflammation by its darker colour, as seen through the speculum, and by the occasional development of varicose veins. It is less sensible, both generally and to the touch, and though its principal inconvenience perceptible by the patient is the sense of weight or dragging, and in some more decided cases, of throbbing in the pelvic or sacral region, the latter symptom is more observable when the whole uterus is congested. In cases where it is confined to the neck and lining membrane, the patient may experience little of these inconveniences, sometimes merely complaining of a slight feeling of prolapsus. The vaginal examination indicates, in complete congestion, a fulness and enlargement of the uterus, much resembling early pregnancy. The partial congestion, however, gives us merely the increased development of the neck, with the body of the usual size, and imperceptible on pushing up the finger: or of the body, or a portion of it; these cases are often accompanied with displacement of the organ corresponding to the locality of the partial enlargement.

Simple engorgement does not necessarily alter the density of the uterine tissue, or cause that increase of hardness, insisted upon by some authors as a pathognomic sign of this state; it may amount to a considerable degree without any very sensible alteration in its density, unless lymph be effused into its interstitial structure; a change, however, much more likely to occur in chronic inflammation and which has, no doubt, been often ascribed to engorgement.

Congestion may exist without any lesion of the uterus, or it may be combined, as it very frequently is, with excoriation, ulceration, or granulation of the neck or lining membrane. It is difficult, from the reasons above specified, to ascribe the priority of occurrence to either. Much difference of opinion exists amongst authors, as to their order of occurrence; some asserting that engorgement of the neck precedes, in all cases, ulceration; whilst others deny this, although they admit its occasional priority. Without entering upon a discussion, which it is impossible always to determine with accuracy, we are quite justified in saying, that rarely does inflammation or congestion persist for any great length of time, without lesion of the investing membrane, within or without the uterus following; and more rarely still does lesion occur, without congestion or inflammation resulting.

In addition to removing its cause, congestion of the uterus is best treated by unloading the vessels of the part engaged. From three to six leeches applied directly to the uterus through the speculum or leech-bag, will do more to relieve this symptom than twelve or eighteen externally. Scarification is also of service, but to prove effectual the incisions must be kept open, by retaining the speculum within the vagina, and injecting warm water, otherwise they generally cease to bleed the moment the speculum is withdrawn.

The vessels having been unloaded two or three times, or oftener if necessary, counter-irritation over the pelvis or sacrum, particularly in complete congestion, must be had recourse to: where it recurs, as it often does, again and again, particularly if assuming the inflammatory character, a permanent drain with Albespeyre's paper, or which is still more efficacious, if the urgency of the case justifies it, a caustic issue kept discharging for several weeks or even months. A continuous stream of cold or tepid water may be thrown into the vagina twice or thrice each day and followed by the use of mild astringent lotions, or washing the whole projecting part of the neck over with an eight-grain solution of nitrate of silver, and occasional inunction with citrine ointment.

The general treatment will consist in what may be termed alteratives. Tonics should always be had recourse to with great care, although not entirely prohibited; in fact, whilst we have seen the greatest mischief induced by the use of tonics in this affection, we should state that, *in some cases*, particularly those of long standing, where the constitutional health had suffered much, decided benefit has been derived from the careful administration of both bark and iron. Pullna water, sarsaparilla, iodine, mild mercurials (particularly Plummer's pill), and taraxacum, are, however, more to be relied upon and are much safer in their general use.

When the menses are interrupted, a few leeches ought immediately to be applied to the uterus, and if the patient be plethoric, the lancet may be used; but the period ought not to pass over without detracting some blood, either from the uterus or its immediate neighbourhood. The hip-bath should also be had recourse to about the period. If a tendency to the occurrence of a half period, or "fortnight's menstruation," shew itself, this should be forestalled by the application of leeches, the day or two before its occurrence.

Inflammation of the uterus, when it assumes the acute character, is sufficiently easily recognised by the seat of the pain and distress, combined with the febrile excitement and sympathetic derangements it engenders. The forms of inflammation of this organ, which we at present treat of, are not, however, so easily recognised: we allude to partial chronic inflammation, which may, at least in the first instance, occur unattended with much constitutional disturbance, when it is more from its consequences or effects that attention may be drawn to the disease.

The same observations may hold as regards partial inflammation, even when it assumes a more acute character. Most of the symptoms accompanying congestion of the uterus will occur in inflammation, whether chronic or acute, partial or complete, of this organ; but in addition we shall have pain, more or less severe, increased on pressure, accompanied, as it partakes of the more markedly acute character, by febrile disturbance, quick pulse, rigors, high-coloured urine, irritation of the bladder, loss of appetite, thirst, and acute pain on intercourse, &c.

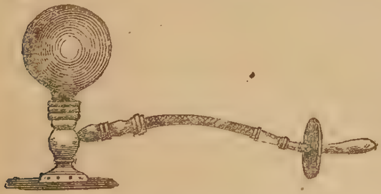
The obvious treatment here is general and local depletion, antiphlogistic regimen, mercury, and counter-irritation, the warm bath, soothing fomentations and injections, and the removal of every possible source of excitement. The symptoms above described are obviously applicable to both acute and chronic inflammation, whether partial or complete, of the uterus, only varying in degree according to the intensity of the symptoms and extent of the organ engaged; for instance, if fulness and marked pain, increased on pressure, exist, on examining the uterine region over the pubes, then the body of the organ is engaged; if the fulness and pain increased on pressure be perceptible only on a vaginal examination, it is confined to the os, or neck; and if a discharge of a mucopurulent fluid, with a tendency to bleed, be observed from the interior, whilst heat and throbbing occur, the lining membrane is the seat of the inflammation. Should the discharge assume a very tenacious character, difficult to disengage from the interior, with a red, vascular, and angry appearance of the everted portion of the living membrane at the lips, then the glandular structure within the neck is engaged. We do not always find the exact part of the organ engaged so distinctly defined in practice, for this reason, that when one part takes on the diseased action, it very commonly extends, either directly, or by the persistence of the local irritation and determination, to the adjoining structures. In inflammation of the vaginal portion of the neck of the uterus, in addition to increase in development and heat, we shall find, on introducing the speculum, that the investing membrane has assumed a vivid red, or, if of longer standing, a brick-red colour, which very often extends to the uterine portion of the vagina, or even throughout this canal. In some of these a red and somewhat prominent, spotted, aphthous, or papular appearance is perceptible upon the os itself. These papillæ are seldom larger than a large pin's head, but there are others on which a follicular enlargement occurs, giving the appearance of vesicles embedded in the substance of the uterus: in some, distinct patches of inflammation pervade the vagina, leaving the intervening portions comparatively free from disease. We have also observed rhagades or fissures combined with this inflammation of the uterus and vagina; and in one case in particular, there would have appeared reason for connecting it with a dartrous affection, to which this patient was liable on other parts of her person. The inflammation in some cases assumes the marked diptheritic character, with insular exudations as observed in the other mucous surfaces, in which case the vagina is also very commonly engaged.

[Ulcers of the uterus are benign, specific, or malignant. Dr. Kennedy treats of the first kind;]

The simplest form in which the *mild ulcer* on the uterus shews itself may be termed excoriation, or erosion, in which it exactly resembles an abrasion of the cuticle in the male. It may commence in the same manner, or it may be the result of one of those aphthous or papular inflammations terminating in superficial ulceration, which takes on a spreading action, and is slow to heal. We have a similar ulcerative process in those affections of the mouth, with which we are so familiar, and which commence without any assignable cause (perhaps from cold or deranged digestion,) ulcerate, spread, burrow, throw out granulations, and heal rapidly on the use of caustic. These cases usually commence upon the prominent part of the lips of the uterus, whilst some, spreading from the interior, the result of, perhaps, a similar state of the lining membrane, extend to the os or vagina.

The spread of the disease, here depends, evidently, upon the extension of the diseased action, through continuity of tissue, the primary diseased action (inflammation) pre-existing. It requires the touch of the examiner to be well practised to recognise simple erosion; and even the most practised will be deceived occasionally, if he rely upon it exclusively. In the milder forms it is merely the epithelium that is eroded, and in these the surface of the sore is so smooth, and free from granulated elevations, that the finger may pass from the smooth, polished surface of the healthy neck over the ulcer, without detecting it. When the ulceration is excavated or when the granulations are sprouting, then this disease is more easily detected; but even in these it is often difficult to detect it by touch, although the defined margin of the ulcer may appear so distinct, as seen through the speculum. The ulcer in some of these presents a violet tint, with little difference in elevation; but in others, particularly as the disease is of long duration, and more granular, the tint is more vivid, and the irregularity of surface more marked.

In this form there may be very little inflammatory or congestive alteration in the neck, and little granulation or irregularity even in the ulcer itself. What, however, will place its existence beyond a doubt, will be washing it over with a ten grain solution of nitrate of silver, or passing the solid caustic rapidly over the suspected part, when the exact outline of the ulcer will be mapped in a dirty white tint, so there will be no possibility of its escaping detection. Although this affection may be attended with little or no inconvenience, and productive of no discharge in *many* cases, yet it is extraordinary the amount of irritation that may attend it in *others;* and, on this account, when detected, it ought always to be cured, a process which is often accomplished by once touching it gently over its whole surface with solid nitrate of silver, and using daily for ten days a very mild astringent lotion, say, one grain of acetate of lead to an ounce of water. We may mention that in using vaginal lotions, to do so with any benefit, the patient should always lie on her back, with the shoulders rather lower than the hips, and a vessel or bed-pan be placed underneath, to receive the fluid that has been injected; and unless a continuous stream of the lotion be kept up for some minutes, we can anticipate but little benefit from any application that it would be safe to inject over the vaginal mucous membrane. Feeling the difficulties attending the want of an instrument, which, whilst it kept up this continuous stream, could be easily used, not acted upon by chemical agents, and moderate in its price, we have, for some time, been directing out attention towards these objects, and have at length succeeded in constructing what may be called a gum elastic syphon, the plan, of which is here given. It is used by alternately squeezing and relaxing the bag with the one hand (the bag filling by exhaustion through its own elasticity), whilst by means of a double ball valve, the fluid is taken up and directed through the tube, which is held in the other hand, into the vagina. It answers equally well as an enema apparatus, and for all the usual purposes of the syringe.



The *Granular Ulcer* is the next form we shall treat of. Like the simple affection just described, it may commence on the lip, or may extend from within; it may occur at one spot on the os, or spread over both lips. It frequently would appear to extend from within the os, and is thus very commonly found combined with the same state of disease in the mucous membrane of the uterus itself.

The granulations in this are redder and more distinct than in the former case and almost always combined with increased development of the lip or lips engaged, and often with the symptoms, either of congestion or chronic inflammation, of this part.

Whilst acute inflammation exists, there is little use in having recourse to caustics, which, in this case, also constitute the most effectual means of cure. The same observation holds with regard to chronic inflammation; and until it is somewhat ameliorated by depletion and the other means indicated, we shall derive little benefit from our caustics. Our experience does not, however, quite coincide with that of Lisfranc, that "caustic applications are quite inadmissible whilst any inflammation of the uterus remains." In many of these cases, after reasonable depletion was had recourse to, the inflammation (congestive in its character) appeared to be kept up by the irritation caused by the ulcer, and was only removed by the application of caustic to the ulcers, the ulcer healing, and the neck losing its hyperæmia, *pari passu:* nay, in others, the strong caustic lotion, and even the stick caustic, quickly passed over the unabraded but inflamed surface of the os, appeared to produce the happiest effects in reducing the chronic inflammation prevailing in it. This was particularly observable in old chronic cases in which depletion had been tried, but with little effect. The caustic applications made to the granular ulcerations will require to be repeated at intervals of seven to ten days for three or four times, using it more lightly on each succeeding application. When the granulations are destroyed, an altered and healthy action is induced in these old habitually secreting surfaces, the cicatrization spreads from the circumference after each destruction, and at length little islands of healthy mucous membrane, with its epithelium, appear, dotted through the old granulations. In the interim between the caustic applications, mild astringent lotions should be daily injected; lead, zinc, copper, alum, decoction of oak-bark and iodine lotions, if little inflammation be present; vegetable astringents, as tea, chamomile, poppy, and marsh-mallows decoctions, if inflammatory symptoms or irritation occur.

Counter-irritation by stimulating liniments, and small blisters, and even leeching and the lancet may be employed, at intervals, if required, and alterative doses of mercury also, provided no scrofulous diathesis precludes this. This affection, or modifications of it, would appear to prevail to a much greater extent in the scrofulous diathesis, and in such it always produces greater inroads upon the constitutional health.

The form of ulcer next to be considered, is an aggravated granular condition, which we shall denominate the *Cock's Comb Granulation*, from its resemblance to this structure. It generally engages the immediate margin of the os, consisting of large, sprouting, papillous granulations, with or without intervening fissures dividing them into lobulated portions, the lobes, when present, appearing to dip a good way into the cavity of the uterus.

The caustic application requires to be made more freely here, so as to procure a decided slough, and get more speedily at the healthy parts underneath. If the solid nitrate of silver be employed, it should be pressed steadily, and for some time, against the sprouting granulations; if the nitrate of mercury (which we prefer) then the brush dipped in it must be repeatedly applied, and introduced well into the deeper diseased structure within the os. It should have been mentioned that the slough takes, in this class of morbid organization, but a short time to separate; in some cases it is thrown off in 24 or 48 hours, in others it requires three or four days, according to the freedom with which the caustic has been used, and the extent of the structure destroyed.

There is another form of ulceration which resembles that now described, but is less sprouting in its granulations. It assumes, like this, a vivid red tint generally, engages one or both lips of the os, close to the aperture, although not necessarily found here, and occasionally extends completely into the neck, engaging the entire of both lips; it is generally, in its advanced stage, very lobular and fissured in its character, although not necessarily so at first, or when at some distance from the os: it is what might be termed doughy, or "boggy," in its structure, the caustic, or sound, sinking very deeply into it without any resistance being offered, and its bleeding very freely on the slightest touch: it is commonly attended with irregular red discharge, appearing at intervals, and particularly after intercourse; this occasionally amounts to debilitating hæmorrhage, with discharge of clots, and this is often the symptom that calls the attention of the patient to her being out of health. The leucorrheal discharge may be trifling, and cause little attention. This we would designate the *Bleeding Ulcer*, and, although a perfectly curable affection, it is likely to be confounded with the malignant ulceration from its appearance and hæmorrhagic tendency. It is not impossible that some of the cases of reputed cures in cancer uteri, of which we hear, may have been simple cases of this form of disease; and we are free to admit that we had extreme hesitation in pronouncing, in the first instance, a prognosis in some such cases, particularly where the ulcer was combined with induration.

[Dr. Kennedy relates a case of this kind, cured by the applicacation, first of nitrate of silver, and then of fluid nitrate of mercury, with plummer's pill, bark, and quinine. He proceeds to say,]

We should not be deterred from the application of our caustic by the bleeding in these cases, and unless freely used it is of little or no avail, as the blood which flows protects the surface from its action, and neutralizes it. A piece of lint ought to be applied, carefully round the margin of the ulcer before each application of the caustic, to absorb any that escapes, and prevent the adjoining healthy structures being injured. When the cauterization is completed, the passage ought to be freely washed out with a continuous stream of water, kept up for some time. This, as well as the last described granulation, is very likely to be combined with diseased action of the lining membrane of the uterus, particularly when it has its seat on the very margin of the lips, the interior of the uterus bleeding freely in these cases, when a sound is passed within it. The caustic ought to be passed as far within as we can introduce it, and applied freely to its interior, and for this purpose the nitrate of mercury, on the camel's hair pencil, is preferable to the nitrate of silver, as it is more easily applied, capable of being more generally spread over the diseased structures in the interior, and not liable to the objection that holds as regards the solid nitrate of silver, namely, its breaking off, and remaining within the uterus. To prevent such an occurrence, where the nitrate of silver is used, it ought to be melted into a port caustic, as recommended by Mr. Wilde, in the treatment of disease of the external meatus auditorius. See Dublin Medical Journal, vol xxiv.

Not only should the caustic be applied to the interior of the uterus in these cases, on each occasion that we apply it to the diseased structures visible to the eye; but, as the healing usually goes on from without inwards, its use ought, as a precaution, to be repeated afterwards, so as to secure that the healing action is complete within the uterus, as well as without. The mucous membrane on the interior of the lips losing its angry granular character, its ceasing to bleed on being slightly touched, the absence of the muco-purulent secretion, and conversion of the discharge, if it continue, into a transparent, glairy mucus, are the only sensible evidences we possess of a healthy state of the lining membrane, and our caustic application, followed by the milder caustic or astringent lotions, should be repeatedly applied with the brush to the interior, until these effects are produced.

[These forms of ulceration may possibly be only different stages of the same diseased action. The same local treatment is for the most part applicable to all of them. The general treatment must of course be as varied as the circumstances of each particular case; sometimes antiphlogistic measures, at others tonic, and occasionally a combination of both will be required. Everything likely to produce irritation or congestion of the parts, must be avoided: *e. g.*, exposure to cold or fatigue, stimulating food and drink, and sexual intercourse. If from neglect of these precautions, congestion occur, counter-irritation is our best remedy. It may be employed in the form of repeated small blisters to the pubes or sacrum, the hot iron, or an issue. Sometimes when cicatrization of an ulcer is nearly completed, aphtha appears on its surface. This is to be treated by a weak solution of nitrate of silver, or a borax lotion, together with change of air.

We proceed to quote from Dr. Kennedy's paper.]

The genito-urinary mucous membrane is markedly liable to catarrhal affections from cold, or other causes determining to mucous membranes, such as this susceptible structure is in very many cases predisposed to. Thus, as we see in some a liability to nasal, and in others to bronchial or gastric mucitis; so in many females there exists a strong predisposition to its occurrence in the uterus or vagina. Catarrh in the uterus is much more obstinate than this affection in the vagina, and the inflammation of the latter mucous membrane more tedious in resolving itself than that occurring in the nymphæ and vulva. Thus, the deeper the seat of the disease the more difficult to cure, a fact which is observed to occur independent of the difficulty attending the treatment. The same observation applies in the male, the inflammation of the prepuce and glans penis being much more under control than that of the urethra, or throat, &c.

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The difficulty and risk attending applications made to the interior of the uterus, render the chronic affection of its lining membrane less promising in their recovery. When the diseased action is confined to the cavity of the neck, it is more within our control; and here a catheter loaded with nitrate of silver, or a port caustic constructed as already mentioned, so that the caustic cannot possibly escape and remain in the uterus, may be repeatedly applied, and by this means the action of the membrane altered, and reduced to a healthy state. The nitrate of mercury is both a safer and more efficacious alterative in these cases. A camel's hair brush, dipped in this fluid, may, where the os is sufficiently patulous, be passed within it, and carried quickly over the interior membrane, re-dipping and again introducing it until a sufficient effect is produced. The os is very likely to contract after its first or second introduction, rendering its repetition difficult, and it would not be safe to introduce a larger quantity than the brush will carry. In order to secure the caustic's being diffused over the interior, and not wiped off at its entrance by the lips, it is well to use a gum-elastic tube, open at the extremity, through which the loaded brush can be passed. This plan will enable us also to get our applications high up into the body of the uterus. The greatest difficulty we have to contend with, in some of these cases, is overcoming the contraction of the neck, or inner os, in order to get up to the body. This must be done by a series of bougies, and those made of gutta percha answer particularly well, from their combining resistance with elasticity, so as to lessen the liability of using any injurious force in overcoming the spasm. When this has been sufficiently overcome to admit of passing the largest sized catheter or tube, as already described, our applications can be made through it. If a brush be used, it can be loaded and concealed within the tube until the point of difficulty be overcome; and then, having previously taken the precaution of graduating the handle to which the brush is attached, we can move it over the interior of the uterus free of the tube, and withdraw it: the brush or sponge should be so fastened to the stick as to prevent the possibility of its separating. In this way nitrate of silver, its solution, nitrate of mercury, nitrate of copper, or whatever application we place most confidence in, can be applied with safety.

We had been in the habit of using injections freely into the uterus for some years without any inconvenience, until we observed a case published in one of the periodicals about nine years ago, in which this operation was reported to have been followed by fatal peritonitis, in consequence of the injected fluid escaping into the abdominal cavity through the Fallopian tube; since then we have adopted this practice less frequently, and with such precautions as to prevent the possibility of any mischief of this kind occurring. By means of a long, graduated glass syringe, a quantity of fluid, not exceeding twenty minims, can be thrown into the cavity of the uterus, and its escape secured in the following manner: the syringe, attached accurately to a small male gum-elastic catheter, is fitted into a somewhat shorter catheter or tube, open and well-finished at its extremity, the difference in calibre between the catheters being such that the large catheter admits of the regurgitation of the fluid between it and the smaller. The syringe and inner catheter are first charged with the fluid to the point, leaving the piston so far withdrawn as to allow merely twenty minims, or half a drachm, in addition to the charging of the tube, within the cylinder of the syringe, as proved by the graduated mark on its side. The patient is now placed in the recumbent posture, the tube introduced, the inner catheter (graduated also, so as to indicate when it projects beyond the other) is passed through, and the fluid slowly projected into the cavity of the uterus. After resting there as long as we wish, the piston may be drawn up so as to suck any remaining portion of the fluid, and a little water thrown in, in the same manner, if required; or the larger tube allowed to remain, so as to secure the escape of any remaining fluid.

By this means, applications can be made with safety to the interior of the uterus, and, as in these obstinate, and often unpromising cases, to prove efficacious, they require to be several times repeated, it becomes a great desideratum that their use should be attended with the least possible risk and inconvenience.

It should be mentioned, that in two out of many cases in which uterine injections have been practised, they were succeeded by acute hysteralgia, accompanied by severe dragging sensations in the loins and back. These symptoms, although at first apparently alarming, yielding in both instances to full opiates, the warm bath, and abdominal fomentations.

After the free cauterization with nitrate of mercury having been repeated in these cases three or four times, at intervals of eight or ten days, a ten-grain solution of nitrate of silver or nitrate of copper may be used at intervals of three or four days for some time; afterwards, the repeated use of acetate of lead, zinc, and borax lotions, at first concentrated, and then about two or three grains to the ounce, seem to agree best. With this local treatment, engorgement, which is very commonly present, must be removed by direct leeching, if the patient can bear it, followed by counter-irritation, as already described. Occasional mustard plasters, stimulating liniments, or the emplastrum calefaciens, or a plaster of Burgundy pitch and tartar emetic, may be allowed to remain for some time over the pubes, or on the sacrum; and, in cases where the obstinacy of the congestion requires it, and the patient's constitutional health will permit of it, a more permanent drain by means of potassa fusa, the Vienna paste, or nitrate of mercury, may be established.

The use of such remedies as induce a healthy action in the catarrhal affections of other organs may be tried, and the balsams, cubebs, and buchu, seem occasionally of service. Tonics, although inadmissible in the first instance, and calculated to aggravate the disease, yet, when cautiously tried after the local treatment, or combined with it, appear of service; of these the best are the mineral acids, zinc, quinine, and the iodide of iron; but if a hæmorrhagic tendency exist, iron must be used with great caution. Benefit appeared to have been derived from Donovan's arsenical solution, in some of the more obstinate cases, when other means had failed. The most powerful alteratives, in these cases, are change of climate and the cautious use of mineral waters: of course abstinence from every local irritation, and from the use of stimulants, is essential. Although nutritive diet and moderate walking exercise are admissible, a total change to milk diet, giving up meat, wine, and malt liquor altogether, has sometimes appeared beneficial.

[This admirable article of Dr. Kennedy is accompanied by several beautifully coloured drawings of the different states of ulceration of the os uteri.]

Dublin Quarterly Journal of Medical Science, Feb. 1847, *p* 56.

195.—ON ULCERATION OF THE CERVIX UTERI, AS A CAUSE OF ABORTION.

By Dr. Henry Bennet.

[On referring to Retrospect, Vol. xiv., p. 356, the reader will find an interesting paper on this subject, by Dr. Bennet. In continuation of that paper, Dr. Bennet observes that though ulcerative inflammation of the cervix, occurring in pregnant females, may *generally* be entirely subdued by judicious treatment without disturbance of the course of pregnancy, some cases occur where abortion cannot be prevented. This may be produced, in the early months, by disease of the ovum occasioned by the uterine inflammation; and, in a more advanced stage, by contraction of the uterus excited by reflex action. He relates such a case, met with in the sixth month of pregnancy. The patient had miscarried four times previously. The first was at three months, the others, at about six months: they were preceded by slight pains and flooding, and the case now referred to had a yellow discharge ever since the second miscarriage. When he saw her, on the 12th April, 1846, Dr. B. says:—]

On examining with the hand, I found the abdomen developed, the uterus rising above the umbilicus, as in the beginning of the seventh month of pregnancy. The vagina was moistened by an abundant secretion. The cervix, in its usual position, more voluminous and softer than it is generally at this period of pregnancy, constituted a quaggy mass; its surface, of a fungous softness, presented, more especially round the os, which was very open, numerous small indurations, about the size of small peas. On withdrawing my finger, it was covered with thick whitish pus. This pulpy, fungous state of the cervix, along with the partial indurations, the purulent discharge, the general symptoms, and the previous history of the case—all indicating the existence of extensive ulcerative inflammation of the cervix, I mentioned the necessity of an instrumental examination. This, however, the patient would not at first consent to; I therefore ordered her to be bled to twelve ounces, and gave her a mild purgative.

On the 21st, I saw her again. The bleeding had slightly relieved the cephalalgia, and softened the pulse, but all the other symptoms were present, and had more attracted her attention since I had so minutely questioned her. On my again pointing out the necessity of instrumental examination, she no longer offered any objection.—The vulva was congested and swollen; the vagina red, tender, and bathed with pus. On getting the cervix between the extended blades of the bivalve speculum, I found that it presented a large, soft, florid, fungous mass, covered with pus, and bleeding easily on being touched. The entire cervix was covered with these fungous granulations; and presented a very different appearance to what ulceration of that organ offers in the unimpregnated state. It was a fungous ulcerated surface, softened and broken up. From the regularity of its surface, however, the absence of uneven, deep-seated induration, and the frankly purulent nature of the secretion from its surface, it was evidently an inflammatory ulceration that I had to deal with. I therefore touched the entire ulcerated surface with the nitrate of silver, and ordered astringent vaginal injections with the sulphate of zinc night and morning; mild aperients, and a tonic antacid mixture, (compound infusion of gentian, and carbonate of magnesia;) light diet; complete rest.

28th. The application of the nitrate of silver was followed by a slight oozing of blood for three days, but by no increase in the local pains. The latter are still severe in the lower segment of the developed abdomen, and in the loins. The yellow discharge is very abundant. She has the same bearing-down pains which preceded her other miscarriages. Same treatment.

[The pains continued, and on the 4th of May, she bore a seven months child. In a few weeks the treatment was resumed, the ulcerated surface being cauterized once a-week, with nitrate of silver, or the acid nitrate of mercury. In the beginning of June the catamenia appeared, attended with much pain. At the end of two months, the ulceration was healed, and all the symptoms ameliorated. Dr. Bennet makes the following remarks:--]

The subject of the above narrative presented, previous to marriage, that peculiar susceptibility of the uterine functions which I noticed in my last paper. The menses appeared late, and were at first irregular. and occasionally painful. She was at times subject to whites. After marriage she miscarried in the third month of her first pregnancy, without being able to assign a cause to the event. From that time symptoms of uterine inflammation and ulceration appear to have been present, yellow leucorrhœal discharge, pains in the back, and in the ovarian and hypogastric regions, with general falling off in the health. These symptoms persisted during the three next pregnancies, which all terminated by miscarriage in the sixth or seventh month, gradually becoming more intense in each. When I first saw her, she was presenting all the symptoms which had, she said, on former occasions, immediately preceded the abortion. The cause of these symptoms became at once apparent on the discovery of the extensive ulcerative inflammation which existed in the lower segment of the uterus. Notwithstanding the most prompt and careful treatment, I did not succeed in preventing the early occurrence of abortion. Nor was I surprised to fail in the attempt. The extent and intensity of the local inflammatory disease were so great, that it is only singular that the development of the uterus and of the contained fœtus could have proceeded so far.

The existence of the ulcerative disease does not appear to have exercised any great influence over the labour, which was easy. She was, however, rather long in rallying, and suffered more from uterine pain subsequently, than is usually the case. Once the abortion had taken place, and the uterus had returned to its normal size, or thereabouts, the case became reduced to an ordinary one of ulcerative inflammation of the cervix, and was treated accordingly, with the usual success. This woman evinced a great susceptibility to conceive; for before the cure could be considered perfect, she became pregnant for the sixth time.

It will have been remarked that the inflammatory hypertrophy of the cervix, which was considerable, nearly completely subsided under the treatment resorted to subsequently to delivery. This fortunate result I attribute partly to the fact of the previous pregnancies having prevented the hypertrophied cervix from acquiring that hardness of tissue which is so often met with in cases of chronic disease apart from the pregnant state.

Lancet, Nov. 21, 1846, *p.* 557.

[Dr. Bennet next gives us two cases in which very serious symptoms followed the abortion produced by ulceration of the cervix. He says:—]

I have expressed a decided opinion that, in a large proportion of instances, the serious inflammatory symptoms, flooding, and discharges, which have been described by all writers as frequently following abortion, especially when it occurs during the first months of pregnancy, are, in reality, occasioned by the unrecognised existence of ulcerative inflammation of the cervix uteri, itself the cause of the abortion.

[The first case was that of a lady, aged twenty-two, who previously to her marriage had been in excellent health. She miscarried in her two first pregnancies, at three and two months respectively, without any known cause. The third time of pregnancy she went the full period; and when the menses returned they were attended with much pain. She had also a yellow discharge. Dr. Bennet says:—]

Four months ago she again became pregnant, and two months afterwards she miscarried, without any assignable cause. This miscarriage was much more painful and tedious than the previous ones, and the flooding greater. She remained nearly a month in bed under medical treatment, constantly losing blood, more or less, notwithstanding the most varied and energetic treatment. On the slightest exertion, the quantity of blood lost became considerable. When I saw her she was very thin, pale, and weak; pulse small and quick; tongue white; no appetite; great cephalalgia; bowels constipated, rest bad. She had severe pain in the lower part of the back, in the left inguinal region, and in the hypogastric region. These pains were but slightly increased by pressure, and the abdomen was indolent to the hand, except just over the pubis, where pressure was attended with a little pain, On examining digitally, I found the vagina lax, and very moist; the cervix low, voluminous, soft, and presenting a spongy surface in nearly its entire extent: the os uteri was open, so as to admit half the first phalanx of the index. The body of the uterus appeared rather larger than normal, and slightly sensible on pressure. The speculum disclosed the vagina livid, and filled with blood, or a mixture of blood and pus. On wiping the blood and sanies off the cervix, which was not effected without difficulty, I discovered a fungous ulcerated surface, of the size of half-a-crown, from which blood oozed on the slightest touch. This state of the cervix at once explained the inefficacy of the treatment that had been resorted to in order to restrain the flooding—viz., the ergot of rye, the mineral acids, acetate of lead, &c., administered internally, rest, and cold applied externally.

Treatment.—The following day I cauterized the entire ulcerated surface freely with the solid nitrate of silver, carrying the caustic into the cavity of the os, and prescribed tepid milk-and-water vaginal injections, tepid hip-baths, rest in bed, light diet, no stimulants, saline mixture, and a mild aperient.

10th. There has been no return of hæmorrhage since the cauterization of the 7th, but there is still an abundant sanious discharge. The cauterization was followed by a little pain, which almost entirely disappeared, however, in the course of the day. The local pains are nearly the same, as also the general state; she feels, however, a little better since the hæmorrhage has stopped. On again using the speculum, I found no blood in the vagina, and I was consequently able to get a better view of the ulceration of the cervix. It appeared rather less fungous and livid than before, but was still unhealthy, bleeding at the slightest touch. After wiping its surface, I cauterized it freely with the pernitrate of mercury. Little pain was felt at the time, or for several hours after; but towards evening, more intense pains set in, principally in the back and in the left side, and also, but with little intensity, in the hypogastric region. They were, the patient stated, as bad as those of labour. I had recommended a warm hip-bath and warm water vaginal injections to be used, in case severe pains should come on. This was done, but without any mitigation in their intensity; and I was sent for. I found the patient in a state of extreme suffering, but without any febrile symptoms; the abdomen was indolent, and pressure on the hypogastrium not more painful than previous to the cauterization. I ordered a linseed poultice to be applied to the hypogastric region, and fifteen minims of laudanum to be taken in camphor julep. Under the influence of these measures, the pains gradually subsided, and she was able to sleep during the latter part of the night. The following morning, they had become very bearable, the pulse and skin were natural, and the abdomen indolent on pressure. The patient was told to resume the vaginal injections, the hip-baths, &c.

[Under a continuance of this treatment, the cervix diminished in size, the vagina became less congested, and the ulcers assumed a healthy appearance, and began to cicatrize.]

At the beginning of August, within two months from the commencement of the treatment, the ulceration was perfectly healed, both inside and outside of the os. The cervix had nearly regained its natural volume and softness, and the uterus had risen to its normal position in the pelvis.

[Upon this case Dr. Bennet remarks:]

When I saw her, the flooding and other symptoms had resisted every therapeutic means previously employed. On examining the state of the uterine organs, I found a fungous ulceration of the cervix, freely pouring out blood from its surface, which was clearly the source of the hæmorrhage, and the cause of the other uterine symptoms. From the previous history of the case, I consider it most evident, that the inflammatory ulceration had existed since the last confinement, and that it was the cause of the abortion, although only discovered two months after the latter had taken place. The inefficacy of the therapeutic agents resorted to in this case, and in similar cases, is at once explained, when we know their true nature. What can opium, the mineral acids, the ergot of rye, &c., do to arrest hæmorrhage originating in an unhealthy fungous sore? The immediate cessation of the hæmorrhage, under the influence of cauterization. is worthy of notice. The application of the caustic to the ulcer, in this instance, however, was followed by the manifestation of very intense pains—a circumstance which must arrest our attention for a moment.

The vagina being full of blood and sanies, and blood oozing copiously from its surface, although a more powerful caustic was evidently necessary, I first used the solid nitrate of silver—a practice I generally follow under such circumstances. My reason is, that we may apply a solid caustic to a bleeding surface, and cauterize it, when a more powerful but fluid caustic woald produce little or no effect, from its being immediately diluted by the fluids secreted by the ulceration. The nitrate of silver, however, although it may arrest, to a great extent, the bleeding from a fungous sore, is seldom so sufficiently energetic to modify the diseased surface as to induce it to take on a healthy, healing action. As in the above instance, therefore, when I have stopped the bleeding by the nitrate of silver, and thus obtained a surface susceptible of being wiped dry, I use the more energetic fluid caustic. The nitrate of silver, in this instance, stopped the hæmorrhage, but did not arrest all secretion from the ulcer. This, however, was effected by the free application of the acid nitrate of mercury, two days later. It is to this circumstance that I attribute the very intense uterine pains which came on within a few hours. The uterus had been discharging a quantity of blood and pus, by the ulceration of the cervix, for two months, and had thus become the centre of a morbid flux, and was in a state of permanent congestion. The further escape of blood being too rapidly arrested by the action of the caustic, extreme congestion no doubt followed, giving rise to its usual concomitant in an inflamed organ—that is, increased pain. In no other way can I explain the very unusual severity of the uterine pains, which I do not recollect having ever before seen so intense after superficial cauterization. The application of caustic to the ulcerated uterine neck is often followed by severe pain, but scarcely ever, as in this instance, by symptoms so formidable as nearly to simulate peritonitis.

[The subject of the next case, had a difficult labour, and from that time had constant leucorrhœal discharge, with ovarian and hypogastric pains. Menstruation was also more difficult than previously.]

Nine or ten months after her confinement she again became pregnant, and miscarried, at the end of three months, between two and three months ago. During the time that she was pregnant she was very ill, all the uterine symptoms enumerated above being exacerbated. The miscarriage was preceded and followed by flooding, and she was obliged to keep her bed for several weeks. From that time forward, notwithstanding the most careful and continued medical management, she had been, she stated, in a most wretched state. She had not been examined locally, but her medical attendant, suspecting the existence of some serious uterine disease, advised her to consult me. Although of rather a full habit, she appeared very weak and debilitated; the lips were pale, the skin sallow, the tongue white; she complained of insomnia, head-ache, palpitations, cardialgia, and constipation; she had a profuse yellow leucorrhœal discharge, often tinged with blood, severe lumbar, hypogastric, and ovarian pains, and a distressing sensation of bearing-down. On examining digitally, I found the vagina moist and relaxed, the cervix very low, voluminous, hypertrophied, not very indurated; and the os open, so as to admit the end of the finger, and surrounded by a soft, velvety surface, which extended to the adjoining surface of the cervix. The uterus itself was enlarged, and painful on pressure.—*Speculum.*—The perineum was deeply torn. The lower half of the vulva, the perineum, and the nates adjoining the perineum, were red, and painful to the touch; they were the seat of severe erythematous inflammation, evidently produced by the acrid nature of the vaginal discharge; the vagina was congested, and contained a great quantity of bloody muco-pus. The cervix, low, voluminous, and congested, presented a large, florid ulceration, the size of half-a-crown.

Treatment.—Tepid hip-baths night and morning; emollient, and, subsequently, astringent vaginal injections; periodical cauterization of the ulcerated surface; mild, saline aperients, and subsequently tonics; light diet; rest in the horizontal position, Under the influence of the above treatment, this lady gradually but slowly improved. The emollient agents resorted to, the hip-baths, and injections, soon subdued all external inflammation; the case then progressed like that first related, without anything unusual occurring. The general health of this patient, however, rallied much slower than that of the former one; it had been much more deeply affected, and the constitution was evidently weaker.

The six cases which I have narrated in this and the two preceding papers, illustrate most of the data contained in my description of inflammatory ulceration of the cervix during pregnancy, (see the Lancet, Sept. 26th); I shall therefore confine myself to them for the present, merely concluding this series of articles by a few propositions, which may be considered to resume the most important facts that I have brought forwards:—

Inflammatory ulceration of the uterine neck is not an uncommon disease in the gravid uterus, although hitherto entirely overlooked by uterine pathologists and by accoucheurs.

When this disease exists in the pregnant state, its symptoms are the same as in the non-pregnant condition, but obscured, and more or less modified, by the pregnancy.

It is a frequent cause of disordered health during pregnancy, or of "laborious pregnancy." It is also one of the most frequent causes of abortion, both in the early and in the later months of pregnancy. It may occasion abortion: either directly, by reflex action; or indirectly, by giving rise to disease of the ovum or placenta, or to uterine hæmorrhage.

The instrumental examination of females labouring under inflammatory ulceration of the cervix during pregnancy is unattended with any risk, either to the mother, or to the fœtus; and it is absolutely necessary, in order not only fully to recognise the disease, but also to treat it.

The treatment of these forms of uterine inflammation must be governed by nearly the same rules in the pregnant as in the non-pregnant state. A properly conducted treatment is nearly always successful in preserving the life of the child, and the integrity of the pregnancy, as well as in curing the inflammatory and ulcerative disease. It is, also, the only means we possess of warding off the imminent danger of abortion to which the patient is exposed.

This form of uterine inflammation being, generally speaking, the cause of those repeated and successive miscarriages which prevent females giving birth to a living child, it is only by curing it that we can hope to make them bear the product of conception to its full period.

The serious inflammatory and hæmorrhagic symptoms which sometimes follow abortions are generally occasioned by unrecognised inflammatory ulceration of the uterine neck. On investigation it often becomes evident that this disease existed previous to the abortion, and occasioned it. The same remark may apply to some cases in which the above-mentioned symptoms precede and follow labour at the full time, as ulcerative inflammation of the cervix in the pregnant state is by no means *necessarily* followed by abortion.

Although inflammatory ulceration of the cervix seems generally to be a cause of sterility, yet, as will appear from the above essay, there are frequent exceptions to the rule. In some females, the tendency to become impregnated is so great, that no amount of uterine disease appears to prevent conception taking place.

Lancet, Dec. 12, 1846, *p.* 639.

196.—*On Potassa Fusa in Uterine Diseases.*—By T. S. Lee, Esq. [The caustics generally used in affections of the os and cervix uteri are the nitrate of silver and the liquid nitrate of mercury. In some cases the potassa fusa is preferred. In a discussion at the Medical Society of London]

Mr. Lee said, that in chronic inflammation, with enlargement and thickening of the cervix uteri, he had found this application very useful. In such cases, the effect seemed to be, that when the slough produced by this caustic was thrown off, a softening of the surrounding texture took place, very favourable to the case. Great care was, however, necessary in the application of this caustic, as, if any of it got upon the mucous membrane of the vagina, it produced immense irritation. He was in the habit of using the caustic protected by a stick of wax, and of passing up the vagina a piece of wool or cotton, well oiled, previous to its use, and of allowing a portion of this to remain at the upper part of the passage, near the cervix uteri, so as to receive any drop that might fall.

Medical Gazette, Feb. 26, 1847, *p.* 382.

197.—*Hydrargyri Nitras Acidum.—(Acid Nitrate of Mercury.)*—[We give this formula once more on account of its great utility in affections of the os and cervix uteri. It is the preparation so much used by Dr. H. Bennet in these cases.]

Take of pure mercury, 100 parts; commercial nitric acid (Dens. about 1380), 200 parts: dissolve the mercury in the acid with the aid of heat, and evaporate the solution until it is reduced to 225 parts.

This preparation contains about seventy-one per cent. of nitrate of mercury, with an excess of nitric acid. It is a powerful caustic, and is very much employed in the present day on the Continent to destroy malignant ulcerations, particularly when of a cancerous character. It is applied by means of a camel's hair pencil, and the parts are then covered with lint.—Dr. Neligan.

Lancet, March, 6, 1847, p. 257.

198.—*On Tumours of the Uterus and its Appendages.*—By T. S. Lee, Esq.—[We extract the following from a short but excellent review of Mr. Lee's interesting work on this subject in The Lancet.]

The author arranges his views under three heads:—

1. Tumours of the uterus, including the very various forms of polypi-cauliflower excrescence, hæmatoma, scirrhus, &c., with their pathology, diagnosis, and treatment.
2. Diseases of the ovary, including ovarian dropsy, under which head are considered all the facts connected with its history, symptoms, treatment, &c., and malignant and other tumours of the ovary.
3. Tumours of the vagina, and the external organs of generation.

The volume concludes with an Appendix, formed of a series of tables connected with the operation of ovariotomy.

The first shows the whole number (118) of all known operations, (and how many are unknown?) from 1809 to 1846.

The two following relate to the mode of operation—viz., by the large (85), and by the smaller (23) incisions.

The fourth table numbers eighteen cases, in none of which was the tumour removed.

The fifth table exhibits the extraordinary fact, that in six cases the operation was performed, and no tumour found to exist in any of them.

The conclusions from these and other facts are so very clearly expressed by the writer, that we give them at length:—

"1. We have ascertained that ovarian disease is one which is not so harmless as some imagine; that, in fact, under ordinary treatment, it is very fatal. More than half of the cases recorded actually die, a large proportion of the others are reported only to be relieved, and only one in five recovers.

"2. That not only is ovarian dropsy fatal, but that it is also much more *rapidly fatal* than is generally supposed; the tables showing that more than one-half, or sixty-three deaths in one hundred and twenty-four patients, in less than two years, and more than half of these—viz., thirty-eight, died within the first twelve months.

"3. That tapping, which has previously been considered the only mode of palliating the disease, is a very dangerous remedy. For I find in the tables I have collected, composed of thirty patients, one-half, or fifteen died within four months [after] the *first* operation, and twelve of these were after the first tapping. That in the result of the tables drawn up by myself and Mr. Southam, that of forty-six cases, twenty of which died after the first tapping, sixteen died within one month of the operation, and ten of these sixteen, or one-half of the whole number, died in seven days after the evacuation of the cyst.

"4. We find that, supposing the danger of the first tapping passed, the fluid re-accumulates rapidly, and that the intervals between each operation become greatly diminished, while the quantity of fluid is increased, so that its remedial powers hardly compensate for the dangers which attend its performance.

"5. We must bear in mind, that, in many cases, the operation of tapping can be borne frequently, and life can be preserved in a tolerable state of comfort for many years, under the careful performance of the operation, from ten, sixteen, twenty-five, or even thirty years; and that more than one in three patients (forty-three in one hundred and forty-two), survive the operation more than four years.

"6. That the operation of tapping ought only to be performed under one of two circumstances; either early, when the cyst is unilocular, or when the ovarian tumour is producing fatal pressure upon vital organs. In no case, except under the latter circumstances, ought a multilocular cyst to be punctured, because the relief given is so trifling, and the dangers of tapping are so much increased in this form of the disease.

"7. That medicinal treatment produces only slight benefit: it may stop the progress of the tumour for some time, but very rarely effects a cure. Pressure, as a remedy, prevents the cyst from enlarging rapidly.

"8. That ovarian disease sometimes undergoes a spontaneous cure, either by an internal rupture of the cyst, or the communication of it, by ulceration, into the various outlets of the body.

"9. That from the difficulty arising in the cure of this disease, the operation of extraction of the cyst has been proposed and performed in one hundred and fourteen cases, of which number seventy-four cases have recovered, and forty died, making the average mortality nearly one in three.

"10. That of these one hundred and fourteen operations, in twenty-four, or rather less than one in five, the operation was obliged to be abandoned, either from extent of adhesions, from the tumour being an uterine or omental one, or from there being no tumour at all; proving most indisputably the *difficulties of the diagnosis.*

"11. That in the ninety cases where the tumour was removed, nearly one died to three recoveries.

"12. That the diagnosis of ovarian tumours is very obscure as regards adhesions and the character of the tumour; that adhesions existed in forty-six of the eighty-one where the fact is mentioned, and in six there was no tumour.

"13. That where adhesions existed, the mortality was greater, being one death in two and a quarter, whereas the mortality was one in three where they were absent.

"14. That the disease may be complicated with organic disease of other viscera.

"15. That the principal recorded causes of death, where it took place soon after the operation, are hæmorrhage and peritonitis; but the cases are much too few to be depended upon.

"16. When death takes place in consequence of the operation, it is very rapid. Of thirty patients, where the time is mentioned, fourteen died within thirty-six hours, and twenty-five within a week.

"17. That the character of the disease is of importance with regard to its mortality. In the extraction of hard tumours of the ovary, the mortality was more than one in two. Of the sixteen, nine were cured, seven died, and in five the tumour was not removed. Whereas, where the tumour was composed partly of fluid, and partly of solid matter—viz., in sixty-five cases, forty-four were cured, twenty-one died, and in fourteen the tumour was not extracted, making the mortality less than one in three; so that encysted dropsy is much more favourable to the operation than hard tumours of that organ.

"18. That as regards the mortality of the two operations, in eighty-five cases where the major operation was performed, fifty were cured, thirty five died, making the mortality one to two and a half (1 to $2\frac{15}{35}$); in twenty-three, where the minor operation was performed, nineteen were cured and four died, making the mortality one in six.

"19. That in some of the cases operated on, the ovarian tumour was malignant; but that the encysted dropsy is not, in the ordinary sense of the word, malignant, and that it may be removed without any tendency to malignant disease appearing in the pedicle.

Lancet, Feb. 13, 1847, *p.* 171.

199.—ON THE DIAGNOSIS AND PATHOLOGY OF OVARIAN TUMOURS.

By Dr. Frederick Bird.

[In a paper, read last November, before the Westminster Medical Society, Dr. Frederick Bird states, that in fifty cases of this disease, he had not performed excision, and that he found the average duration of life to be little more than three years from the commencement of abdominal enlargement. He believes that almost all ovarian tumours are referable to the same type, and that their diagnosis. though often difficult, might be determined, in the majority of cases, with much accuracy. As to the application of pressure, Dr. F. Bird thinks it has not exerted any beneficial influence, for, whilst in some cases the tumour has apparently decreased in size, it was manifestly at the expense of the intestines, which were pressed underneath the ribs.]

He then proceeded to explain the means he employed for ascertaining the existence or non-existence of peritoneal adhesions; of the presence of solid matter in the basic and parietal portions of the cyst; of the attachments to the uterus; and of the absence of pelvic adhesions. The evidence upon which he was accustomed to found the diagnosis was deduced from the alteration effected in the relative position of the tumour under different frequencies of respiration and diaphragmatic movements: and he exhibited apparatus employed for the purpose of treating the mobility of the tumour by forced respirations; whilst the presence of solid matter could be detected by percussing in right lines through different parts of the tumour, and carefully estimating the amount of impulse communicated to the opposite hand, as it would be found that the fluctuation would be interrupted by the presence of solid matter; that although marked fluctuation might be felt on one side of the abdomen when percussion was made over the solid growth, yet that upon reversing such manipulation, it would be found that no fluctuation can be detected at the point where solid matter had been formed. The direction of the os uteri and the mobility of the uterus were the data from which he advanced the opinion of the absence of morbid attachment of the ovarian mass with that organ; that such examination could be most satisfactorily made by the use of the uterine sound of Professor Simpson, the introduction of which instrument he regarded as a most valuable and important addition to the means of investigating diseases of the uterine organs. He was induced to attach little or no importance to the previous history, as he had frequently found extensive adhesions present when the history of the case furnished no evidence of peritonitis ever having existed. Peritonitis could occur without pain, just as adhesions might exist without crepitus; and he believed that adhesions constantly occurred in cases in which much pressure was exercised upon the sac without giving rise to acute symptoms, or causing interruption to the general health. Contrary to the opinion commonly received, ovarian tumours did not, as a general rule, appear on one side of the abdomen, nor did any anatomical reason exist for their doing so; and experience had taught him to regard unequal distension of the abdomen rather as evidence of the presence of solid matter or peritoneal adhesions. Of the propriety of performing the operation in well-selected cases, Dr. Frederick Bird believed there could be no question; and although he did not advocate its premature performance, yet that in all cases of ovarian disease, a period would be found to occur in which the early manifestations of constitutional suffering could be perceived, and that at such period the operation might be performed with the full probability of preserving the life of the patient. He regretted that he could not adduce statistical tables in support of the opinions he had advanced, as, unhappily, the unjustifiable suppression of fatal cases in which the operation by the large incision had been performed, wholly destroyed the practical value of such records. Dr. Frederick Bird having read the details of his late operation, concluded by observing that the general result at which he had arrived, as regarded the treatment to be adopted in ovarian disease, was to extirpate the tumour in all cases favourable for the operation, and in which no obscurity in diagnosis remained to render its performance unusually hazardous; that in nearly all cases it was the safest practice to abstain from the use of the remedies formerly advocated—as, for example, mercurials, drastic purgatives, diuretics, &c.; and that in cases in which the operation of excision was negatived, frequent and early tappings. aided by constitutional remedies, afforded the most probable means of prolonging life. The practice of employing powerful abdominal pressure by bandages, enveloping pads, books, and such compresses, should be carefully avoided, as tending to produce adhesions, and change the character of the cystic secretion. Still more dangerous was the practice of forcibly compressing the abdomen by tight bandaging, and of administering mercury, and puncturing the cyst, whilst the patient is under the influence of mercury. He had unhappily seen several cases in which such mode of treatment had been followed by the worst effects, the infliction of a punctured wound during a state of ptyalism had led to purulent secretion, and the patients had died as from the effects of a gigantic abscess. Such treatment was in itself irrational and dangerous, and in nearly all cases led to the complete prostration of the vital powers—the conversion of a serous into a purulent secretion—the formation of peritoneal adhesions - and, in several instances, to the destruction of life.

Medical Gazette, Nov. 27, 1846, *p.* 943.

[At a meeting of the Medical Society of London, (Jan. 18th, 1847,) the subject of Ovarian Tumours was again entered upon, and Dr. Frederick Bird advanced the following opinion with respect to their malignancy:]

He said that he was not disposed to advance the position of all ovarian tumours being referable to a malignant type, but he believed that the majority of them bore a very close relationship to malignant disease, and that it would probably be more easy to establish a still nearer affinity, were it less difficult to give a correct definition of malignancy. Without alluding to those forms of ovarian disease commonly admitted to be malignant, he was inclined to believe that nearly all were associated with a tendency to become so, and that such tendency could be traced in many of the most simple varieties of ovarian growths; that although a large class of cases had been described as belonging to a simple and unilocular type, he had very rarely met with such examples, as in almost all the examinations he had made of what were termed unilocular cysts, secondary and tertiary cysts were present; in many instances the secondary cysts were very small, and commonly occupied the basic portion of the parent sac; in others they were of much larger size, and in some completely filled up the containing cyst; but in all appeared to rise from the structures subjacent to the lining membrane of the parent sac, which thus became completely reflected over the secondary cysts; that perhaps all were essentially compound in structure, and that each component cyst, had the property of developing other cysts in its cavity, and thus give rise to the often rapidly increasing size of the large hard masses frequently observed after the withdrawal of fluid by paracentesis. Not unfrequently the development of such secondary growths occupied but a very short period, and he had seen many cases, in which, after the first tapping, little or no solid matter could be felt; at a second tapping less fluid had been removed, and a larger solid growth detected, whilst, after repeated tappings, the whole of the cavity of the parent sac had become filled by myriads of cells, containg serous, mucous, colloid, and often purulent or muco-purulent secretions. In their compound structure, in the manner of their growth, in the frequent rapidity of development, and in common association of fungoid and cerebriform degeneration, some evidence might be found of the relationship of ovarian tumors with other diseases admitted to be malignant. He could not accord in the opinion that had been expressed in reference to the duration of life in those affected with ovarian disease. Statistical evidence derived from his own cases gave but three years as the average duration of life, and such result was supported by reference to hospital records, as well as by the written opinions of those who had recently investigated the subject. He was quite prepared to admit that exceptions were occasionally to be met with, but they were comparatively rare; and that some, at least, of such cases, were not examples of true ovarian tumors, but consisted of cystic collections of fluid contained in the broad ligaments, and not involving the structure of the ovary itself.

[Dr. Oldham does not agree with Dr. Bird, in the opinion that patients generally live only a few years after the commencement of abdominal enlargement, many living for a much longer time;—neither does he think they so generally bear a malignant character. We think there is a good deal to be said on both sides. We confess that we have watched cases of ovarian disease for many years after the abdominal enlargement commenced; and unless a numerous list of cases could be advanced to prove that three years was the average duration of life after this stage of the disease, we should doubt the correctness of Dr. Bird's opinion.]

Medical Gazette, Jan. 29, 1847, *p.* 202.

200.—ON OVARIAN DISEASE.

By W. H. Bainbrigge, Esq., Surgeon to the Northern Hospital, Liverpool.

[Mr. Bainbrigge relates an interesting case of this kind, which after various methods of treatment had been adopted, seemed to be accidentally ruptured by the patient herself applying compresses of wood on the abdomen, and firmly securing them by a bandage. This pressure diminished the abdominal enlargement and increased the tumour in the vagina, where it had also shown itself. At last, the cyst evidently gave way and the contents escaped into the peritoneal cavity, as the patient was seized with peritonitis, and the gradual disappearance of the tumour took place: but it re-appeared on the other side, with this difference, that it did not manifest itself in the vagina. Mr. Bainbrigge now adopted the following steps in conjunction with Mr. Bickersteth, a highly respectable practitioner.]

My plan was this:—to make an incision through the abdominal parietes about three inches in length; draw out a portion of the cyst, say about one half; then evacuate the contents, carefully guarding against any escape of the fluid into the peritoneal cavity; next remove the outer portion of the cyst and bring the edges of the remaining part into apposition with the lips of the external wound, with a view to their union by adhesive inflammation, and thus form an opening into the cyst from without, by which its future contents might readily escape.

On the 14th of March, 1846, the operation, as described below, was performed by myself in the presence of Mr. Bickersteth and Dr. Carson. The patient was placed in a semi-erect position on the edge of the bed. An incision about three inches in length was made in the median line, two inches below the umbilicus, extending through the parietes, and laying bare the external surface of the cyst. On endeavouring to draw out the cyst in order to remove a portion, as originally intended, I found that such extensive adhesions existed as to render this part of my plan impracticable, which was perhaps in one sense a favourable circumstance, inasmuch as it prevented any escape of fluid into the peritoneal cavity.

Nothing remained, therefore, but to open the cyst, evacuate its contents, and insert a plug so as to prevent union of the edges of the wound, and closure of the opening. About twenty-five pints of a sero-sanguineous fluid, similar to that in the former tumor, were drawn off.

During the four following days there was constant discharge of a similar fluid from the interior of the cyst; on the fifth day it became purulent, thence gradually assumed the character of pure pus and so continued up to May, amounting on an average to about eight ounces in the twenty-four hours. From this period it began to decrease; meanwhile no bad symptoms appeared. The patient merely laboured under the ordinary effects of the general debility consequent on such a discharge.

It should here be stated that, for a month after the operation, stimulant and astringent injections were occasionally used for the purpose of setting up new action and stopping the discharge, but without producing any apparent good effect.

Early in June the discharge had so far diminished that the lady was able to undertake a tour through the country, which occupied her until the end of August. On her return home I found the tumour had entirely disappeared, and there remained a small fistulous opening in the wound communicating with the interior of the cyst, and of the size of a common quill, from which scarcely half an ounce of pus was discharging daily. Her general health had been improving during this time, and is now, I am happy to state, perfectly re-established.

She is enabled to take her usual exercise, both on foot and horseback, and experiences no inconvenience beyond that of the daily dressing. The catamenia have never re-appeared in their natural course, but a vicarious bloody discharge from the wound has been established; it generally lasts about three days, accompanied with some pain, and returns at the natural period.

In reviewing this interesting and instructive case, there are certain points which cannot fail to attract attention. The general predisposition to ovarian disease which appears to have existed in the patient ought to be noticed. When radically cured in the left side it reappears after the lapse of a definite though inconsiderable interval.

The next important feature is the accidental cure of the disease in the left side. There can be little doubt that the acute peritonitis under which I found the patient suffering, in May 1843, had supervened on the rupture of the ovarian cyst, and the effusion of its contents into the peritoneal cavity; and that this rupture was occasioned by the violent pressure exercised upon the cyst by the piece of wood which the patient had employed to compress and flatten the tumour. The subsequent absorption of the effused fluid, and the sudden and total disappearance of the tumor, are facts deserving attention.

A question here incidentally arises, whether, and how far, pressure of a somewhat similar nature, might be advantageously employed in such cases and under such circumstances. Many of our most valuable hints have been derived from accidents. I shall now briefly advert to my original plan of operation, and to the operation itself. I have already stated, in a few words, my grounds of objection to the modes of operation, &c., of late in use for the cure of this disease, some of which apply to that which I have proposed. By establishing a direct communication from without, with the interior of the cyst, I had in view, not only to form an exit for the discharge of the secretion that might subsequently collect in the cyst, but also to set up a new action, and change the nature of the secretion, hoping thereby to effect a radical cure of the disease. By excision of a portion of the cyst, I proposed, firstly, to diminish the superficial extent of the secreting surface, and thus proportionally reduce the quantity of the subsequent discharge; and secondly, to prevent the escape of the latter into the peritoneal cavity by uniting the edges of the cyst to those of the external wound—suggestions for which I am indebted to my friend Dr. Carson. The former object I attained, but was defeated in the latter in the adhesions I met with. The case, notwithstanding, terminated happily.

I shall feel only too happy, if, in bringing this case prominently forward, and making these remarks, I succeed in recalling attention to an operation that has singularly fallen into unmerited obscurity, convinced that its general adoption will rescue many a victim that may otherwise succumb either to the disease or the scalpel.

Medical Gazette, Jan. 8, 1847, *p.* 52.

[But even a still more interesting part of Mr. Bainbrigge's communication consists of the following references to cases which either have been treated on the same principles, or which nature herself has taken the liberty of dealing with:]

Eighteen Cases of Ovarian Dropsy, Treated on the Principle of Mr. Bainbrigge's Operation.—London Medical Gazette, Vol. xviii. p. 469.—An operation for relief of ovarian dropsy is recorded. An incision of about an inch and a half was made below the umbilicus; the sac was opened to about the extent of three inches, and evacuated, and a ligature passed through it, and secured externally, in order to keep the sac in contact with the abdominal parietes. There was a discharge for about a month, when it ceased, and the opening closed. The result was a permanent cure.—By *Mr. Currie*, Liverpool.

Memoires de L' Acâdemie Royale de Chirurg., tom. ii. p. 431 to 444, An. 1753.—A detailed report of two cases by Le Dran, in which an incision was made into the cyst, the contents evacuated, the wound kept open, and the suppurative process established in the cyst. The result was a permanent cure, a fistulous opening remaining in one of the cases for two years, and in the other for the remainder of the time up to which he had observed the case.

It appears that subsequently to these two successful cases Le Dran was in the habit of operating in this way. He says, he always found the fistula remained permanent, except in the solitary case above given, where it closed in two years. To keep open the communication with the interior of the cyst, he sometimes employed a tent, at others, left the canula, even leaden tubes in the wound, and occasionally used injections. He remarks on the inefficacy of tapping, and then says—"J'ai osé tenter une nouvelle route et le succès a répondu a mon espérance," from which it is natural to infer that he was eminently successful.

Lancet, Vol. xiii. p. 879.—Allusion is made to the above cases; and a similar one by Portal is mentioned, in which a cure followed.

Lancet, Vol. xx. p. 603.—A case by M. Rigollot, of St. Etienne, is given, in which after the use of the trocar irritating injections were employed. The cure was completed in a month.

London Medical Gazette, Vol. xxvi. p 349.—A case of ovarian dropsy, treated by tapping the tumour in the vagina. Although intended merely to liberate the fluid by tapping, the wound kept open, and a continuous discharge took place. Permanent cure.

Edinburgh Medical and Surgical Journal, Vol. xvi. p. 367.—A case of operation by incision,—closure of the opening by the surgeon,—spontaneous re-opening of it subsequently, of about the size of a small pea, from which, on the slightest exertion, matter flowed freely, which the operator considered *an unusual effort of nature* for her relief; it was followed by *permanent subsidence of the tumour and restoration of health.*—By *Dr. Mc'Keever*, Lying-in-Hospital, Dublin.

In my case, as in the above, I regard the continuance of the discharge as *an effort of nature* to suppress any further development of the disease.

Medical Times, Vol. viii p. 233.—A case is quoted as having been given by Dr. Ollenroth, in which the wound was kept open, and the contents of the sac allowed to escape through it for a considerable period; followed by a permanent and radical cure.

London Medical and Surgical Journal, Vol. iv. p. 428.—A case of permanent cure is recorded, by an incision into the sac, partial evacuation of its contents, and a tent left in the wound. Through the opening a fluid and portions of the cyst from time to time were discharged. The opening remained fistulous.

London Medical and Surgical Journal, Vol. vi. p. 320.—A case, by Mr. Langley, of ovarian dropsy, complicated with pregnancy. He punctured the cyst in the vagina, the contents came away, and the woman was soon after delivered. The editor remarks upon it.—"The result of the case warrants paracentesis per vaginam; the advantage would be *the gradual and constant discharge* of the fluid by an opening so dependent." Of course he must allude to the fluid draining off as soon as formed again in the cyst, and have supposed such to have been the case in the present instance.

Philosophical Transactions, Vol. xxxiii.—Dr. Houston's case of operation for ovarian tumour. He found, on introducing the trocar, that no fluid came away; but on making an incision, he succeeded in drawing off the contents of the sac, which were partly gelatinous, partly pultaceous, and very considerable in quantity. He then brought the sides of the wound together, and secured them by suture, leaving an aperture, however, through which a discharge from the cyst continued to pass for some time. The opening finally closed, and the woman was completely cured, living fourteen years after, without any return of the tumour.

Archives Générales de Médicine, Vol. lviii. p. 362.—A case of ovarian abscess is given by M. Löwenhardt, of Prenzlau, in which he evacuated the contents of the ovary through an incision in the abdominal parietes. For about two months the matter continued to drain away, gradually decreasing in quantity. At the end of this time the tumour had quite disappeared, the discharge ceased, and the opening closed. He says—"*La querison etait complete.*"

Archives Géneralés de Médecine, Vol. xlvii. p. 354.—A case is recorded, (extracted from the *American Journal* February, 1838,) in which Mr. Mussey, in attempting to extirpate a very large ovarian tumour was prevented doing so by numerous and extensive adhesions. He was obliged to have recourse merely to making a small incision into the tumour, through which its contents were drawn off. He kept up the opening by means of a tent. A clear liquid came away for several days; it then became purulent, gradually diminishing in quantity for three weeks; when it closed the tumour had disappeared. A year after the woman was quite free from any return, and was delivered of her fourteenth child.

Archives Générales de Médecine, Vol. l. p. 487.—A case is quoted of an operation by Mr. Arnott, of the Middlesex Hospital, in which he punctured the vagina, and a discharge from the cyst continued for sixty-four days, when a complete cure was effected, and the opening in the vagina perfectly closed.

The editor in his remarks alludes to another case, similar in its nature and results to the one above mentioned, as having been published in the *Revue Médicale* by M. Recamier.

Archives Générales de Médecine, Vol. xxxi. p. 427.—This is an account of an operation for extirpation of ovarian tumour, attempted by Dr. Ehrhartstein, in which from an aperture in the external wound serum continued to drain for some time, which afterwards changed into a milky fluid, and did not disappear till the ninth week after the operation, when the wound cicatrized, and the patient was cured.

Archives Générales de Médecine, Vol. xx. p. 92.—A case is given by Dr. Dieffenbach, of Berlin, where the adhesions were such that he merely punctured the tumour after incision; a sanious matter continued to discharge itself through the wound for some time after, and the patient ultimately recovered.

Provincial Medical and Surgical Journal, Vol. iii. p. 593.—Mr. Bainbrigge's operation for ovarian dropsy. In this case an incision was made through the abdominal parietes into the sac; the contents (twenty-five pints of sero-sanguineous fluid,) were evacuated; a plug of lint was inserted to prevent union of the edges of the wound, by means of which a suppurative discharge was set up from the interior of the cyst, which was followed by its obliteration without a single bad symptom, and by a permanent cure.

[In the following nineteen cases Nature herself was the Surgeon.]

London Medical Gazette, Vol. xvi. p. 643.—Dr. Ramsbotham relates a case of ovarian dropsy, discharged through an opening made by nature at the umbilicus; the tumour disappeared. The patient lived eight years after, and had no return of it. He also mentions a similar case of Dr. Mead's.

London Medical Gazette, Vol. xxiv. p. 966.—Dr. Henry Davies gives a case of ovarian tumour in which the integuments burst at the umbilicus, and discharged a thick red fluid, which gave great relief. The discharge continued for seven years, during which the general health was good; it then closed. Two years after she died of apoplexy.

London Medical Gazette, Vol. xxv. p. 396.—A case of ovarian dropsy, bursting at the umbilicus, is related by Mr. Douglas, of Glasgow. The woman died two months after of peritonitis. From the particulars of this case, there does not appear any reason for connecting the operation and the subsequent discharge with the peritonitis.

Lancet, Vol. ii. 1839–40. p. 12.—Dr. Ingleby relates a case of ulceration through the abdominal parietes, through which an ovarian cyst emptied itself. There was a discharge for some time through the opening, followed by a permanent cure.

London Medical Gazette, Vol. xxxv. p. 303.—A case is given of diminution of the cyst, by a spontaneous opening into the abdomen at the navel, which discharged purulent lymph, and relieved the patient in a permanent manner.—By *Dr. Lambrecht.*

Medical Times, Vol. xiii. p. 262.—A case of permanent cure of ovarian dropsy is related as having taken place, after a spontaneous opening at the umbilicus, followed by a discharge of the contents of the sac, and formation of a fistulous passage, which subsequently closed.

Dublin Quarterly Journal, Vol. i. p. 519.—It is stated that Dr. Montgomery has seen three cases in which ovarian cysts discharged their contents through the parietes of the abdomen. He does not state what the final results were; but had they been unfavourable or fatal, they would no doubt have been mentioned. A similar case is also alluded to, as being at the same time (January 6th, 1843) in Dr. Steven's hospital.

Edinburgh Medical and Surgical Journal, Vol. ii. p. 180.—A case by Mr. Anderson is given, in which a spontaneous opening took place at the umbilicus. There was a discharge from the cyst which lasted nine months, during which the tumour had gradually disappeared; she then died, as it would appear, from general cachexy, under which she had laboured long previous to the opening being formed. The state of the patient's health a year before the operation was such, as under any circumstances, to render it improbable that she would live more than a few months.

London Medical Gazette, Vol. viii. p. 291.—A case is given of discharge of the contents of an ovarian sac through a spontaneous opening in the vagina, which ulcerated, and no doubt allowed any new-formed secretion to escape. The consequence was almost complete disappearance of the tumour.—By *Dr. Elliotson.*

London Medical Gazette, Vol. xxxi. p. 572.—Dr. Waters gives a case of periodical return of an ovarian tumour and its entire disappearance two or three times after a copious discharge of a thick, yellowish, ropy fluid, viâ *recti et vaginæ.* After the last discharge no return of the tumour had taken place, and the patient's health was in a satisfactory state.

Lancet, Vol. ii. 1839–40, p. 12.—Dr. Ingleby gives a case of cure of ovarian dropsy, consequent on ulceration into the bladder, and permanent discharge per urethram, for upwards of a year, of albuminous fluid, shreds of coagulable lymph, and hydatids.

Lancet, Vol. ii. 1839–40.—Dr. Ingleby gives a case of rupture of ovarian cyst into the intestinal canal, as evinced by the vomiting of the contents mixed with fæcal matter, which he describes as lasting for some days, and followed by a cure.

Lancet, Vol. ii. 1842–43, p. 422.—A case of spontaneous permanent cure of ovarian dropsy, by a discharge from the cyst per vaginam, of several days' duration.

Medico-Chirurgical Review, Vol. xxiv. p. 206.---Gives three cases of cure by accidental rupture of a cyst into the vagina, and discharge through that opening; there can be no doubt that the discharge was continuous for a longer or shorter period.

Many more cases of the above description might be adduced if necessary, for the further elucidation of this very interesting mode in which nature operates successfully for the cure of this formidable disease.

With respect to the *accidental cases* to which I have alluded, it appears to me that many cures have resulted from the bursting of the cyst into some portion of the intestines, or the bladder, as well as into the peritoneal cavity, under which circumstances a discharge of the fluid takes place, continuing for a longer or shorter period, and thus terminating as in the cases above detailed, in a more or less permanent cure. Instances of this kind are by no means rare. As to those cases where an accidental external opening has been made into the cyst through the parietes of the abdomen, as in the well-known case of the goring by a bull, &c., &c., a permanent cure has also been effected on similar principles.

The foregoing abstract professes to do no more than give a sufficient number of cases to exemplify the principle of the operation in question, and justify the conclusion I have arrived at. It is worth mentioning that the farther I extended my search the more I became convinced that this operation has been regarded either with *needless alarm or culpable indifference.* In presenting these as cases in point, it is to be observed, that with the exception of the first three on the list, it does not appear that the surgeons contemplated or understood the *rationale* of the operation. In their descriptions they seem to overlook the main fact, or mention it in a way to show they attach little or no value to it. Hence some of the cases must have laboured under serious disadvantages arising from careless or injudicious after-treatment, or from the non employment of subsidiary means, calculated to promote a successful issue of the operation. The cases are, however, not the less on that account to be received in evidence, but rather the more, and I have no doubt that many of the cases on record, in which the cure has been ascribed to different causes, or not attempted to be accounted for unless on some vague general principle. would, if more circumstantially detailed, exhibit the particular characteristic feature of the examples I have collected.

Provincial Medical and Surgical Journal, Jan. 13, 1847, *p* 9.

201.—*A Case of Ovarian Dropsy, Treated by Tapping and Iodine Injection.*—By Dr. A. ALLISON, Spencer, Indiana.—[Dr. Allison's patient was a countrywoman æt. 35, who had been for fourteen years the subject of ovarian disease. It had originated in suppression of the menses from exposure to cold and wet; a few weeks after which she perceived a painful tumour in the situation of the right ovary. It increased in size, and during the progress of the disease she bore three children and had three abortions. Tapping was resorted to five times, in conjunction with general treatment, the most useful diuretic being iodide of potassium, with squill and juniper; when the stomach or bowels were deranged by this medicine, they were always relieved by Dover's powder. Dr. A. says:]

Her strength gradually failed, progressive emaciation followed, her extremities dwindled away to the least possible size, and following this, they swelled to such a degree that bandages were necessary to keep the integuments from giving way. Such was her condition when I tapped her the last time, August 9th, 1845. After I operated this time I concluded to introduce a tent, and thereby allow the fluid to escape as fast as it might accumulate. Accordingly I introduced a silk cord one-sixth of an inch in diameter, and instructed her husband in its use. It had the desired effect; he drew off the fluid at his pleasure without causing any material pain.

Thus matters progressed until the last of November, at which time I visited her, and found that during my absence the disease had been gradually getting worse. The discharge had become less, but almost puriform, hectic had set in, and night sweats tormented her most grievously. She was a living skeleton, and utterly unable to turn herself in bed. I looked upon her condition as entirely hopeless, but concluded to inject a solution of iodine into the dropsical sac as a last resort. I did so, and the symptoms that followed were truly alarming, and could not be entirely controlled. They subsided, however, in a few days, and she commenced improving. The discharge rapidly decreased until it almost ceased entirely. The superficial veins became visible, and her sallow features were lighted up with the glow of returning health. But her bowels were irregular, digestion feeble, and she suffered much with flatulence. To remedy this condition I put her upon a pill composed of aloes, quinine, sulph. iron, ginger, and ext. gentian. It had a very fine effect; kept her bowels regular, improved the tone of her stomach, and prevented flatulence. She continued the use of the pill for nearly four months.

A short time since, her husband called to tell me her condition. She is enjoying better health than she has done for twelve years. Weighs about one hundred and fifty pounds, and is able to do her housework. Her colour is fresh and good.

The tent remains in, but the orifice is greatly inclined to heal; so much so, that processes of skin are thrown out around it. Occasionally, the discharge amounts to a tea-spoonful of purulent matter in the course of twenty-four hours, and now and then, it ceases altogether for a few days. She suffers considerably, especially at nights, with pains in her joints; they are also inclined to be stiff. She has had no return of the menses, but for four months past, at regular periods four weeks apart, she has had a discharge from the tent orifice, resembling the catamenial discharge in every particular; it continues five or six days, and discharges about a pint. She does not experience aphrodisiacal desires; the only feeling she has had that approached anything of the kind occurred one night in a dream.—*Philadelphia Medical Examiner.*

[We have given the preceding case in the plain unvarnished language of the author, who is a young but respectable practitioner in the state of Indiana, in whose report we have entire confidence. The injection of iodine into the ovarian sac was certainly a hazardous experiment, to which he was doubtless led by the apparent hopelessness of the case, and the success which has attended its employment in dropsies of other serous cavities. The remedy is scarcely more dangerous, however, than ovariotomy, and in this instance seems to have been quite as fortunate. Nevertheless, we should ourselves hesitate before employing it.]—*Ed. Med. Examiner.*

Dublin Medical Press, Nov. 11, 1846, *p.* 309.

202.—*On the Treatment of Ovarian Disease.*—By Dr. Locock, &c.—In cases of unilocular cyst, in which the patient was in good health, tapping would prolong life for many years: Dr. Locock himself had known cases of twenty years' duration. If, on the contrary, we tapped an unhealthy cyst, in a broken-down constitution, then there was little use in the proceeding: and these, and these only, he believed were the cases in which danger resulted from tapping. He had heard surgeons of great experience state that death after a single tapping was very rare indeed. The late Dr. Gooch had told him that he never lost but one patient after tapping, although in a second instance severe peritonitis came on; but this was subdued and the dropsy permanently cured. We could only, then, compare the operations of tapping and ovariotomy, properly, by taking into consideration the nature of the cyst, its character, complications, &c. Which were the cases, then, in which we could substitute a better mode of treatment than by tapping? In solid tumours, without fluid, we have no good grounds for endangering the lives of our patients by an operation for their removal, because we knew that in the majority of these instances, though often painful and inconvenient, life might go on for many years, and the patient attain a good old age. In cases where the cyst was simple, and the health unbroken, and where the fluid was of a serous character, the experience of the last few years had convinced him that the most successful treatment was a single tapping, followed by due and well-regulated pressure; the pressure to be continued for months, at the expiration of which the patient would be well; or even if the fluid again formed, an operation of a more formidable character could be resorted to, for the little adhesion which might have resulted from the pressure would offer no obstacle to such a proceeding. He had seen several cases in which pressure had been employed with the most favourable result. In one case of common ovarian cyst, the tumour had been completely and permanently dispersed. It was well known that Sir Astley Cooper retarded the growth of solid ovarian tumours by the application of long-continued pressure. A case had occurred to him (Dr. Locock) of a perplexing character, in which an ovarian cyst kept filling and bursting every six weeks into the cavity of the peritoneum. This continued for the space of twelve months. There could be no doubt that a tumour formed in the period named, and as regularly burst into the peritoneal cavity. After this had occurred eight or nine times, Sir Benjamin Brodie let out a very small quantity of the fluid from the ovarium; it was of a dark pea-soup colour. No further attempt was made to reduce the size of the cyst by evacuating it, and, of course, a quantity of fluid was left behind. To this collection pressure was made, the cyst never filled again, and it did not burst. The patient died subsequently from malignant disease of the liver, and on examination after death the ovarian cyst was found collapsed in the pelvis, containing a few shreds of coagulable lymph, similar to that found in the peritoneum. Four months since, another case had occurred to him; the cyst was simple, the health good. Eleven pints of fluid were drawn from the tumour, and firm pressure was applied, and had been kept up to the present time. There had been no return of the collection, and no sign of it. It might, perhaps, be said, that in this case sufficient time had not elapsed to determine the success of the proceeding. He (Dr. Locock) thought that the cases treated by Mr. Brown deserved the attention of the profession, though he thought that Mr. Brown was wrong in giving mercury and diuretics, for they were not only useless, but did positive harm. In his (Dr. Locock's) cases, Mr. Brown's plan was followed, but no mercury was given, and they went on well. He had said enough of this class of cases to show that in simple ovarian cysts we had a simple remedy, which offered a fair chance of recovery to the patient. Now one kind of case was left, and that was where the growth was of a malignant character or the tumour many-cysted. In such cases, little benefit could result from tapping or pressure, and in these alone was an operation for removal to be performed; and it was in these, it must be recollected, that such operation was less likely than in others to relieve or cure.

Mr. Thomas Stafford Lee said, that the subject which was at present under the attention of the Society, viz., the result of the operation of tapping, was one of the greatest importance. The operation itself would, he thought, on examination, be found to be a very dangerous remedy, and, if so, would be an important argument in favour of the extraction of ovarian cysts. He begged leave, therefore, to present to the Society a number of cases in which the results of tapping were distinctly stated, and which, he was sorry to add, did not accord with the experience of Dr. Locock. Mr. Southam, who had been a successful operator in two cases of ovarian dropsy, was greatly struck with the frequency with which unfavourable symptoms and death had followed the application of paracentesis, and more especially after the first operation; he therefore drew up a table, consisting of twenty cases, (*London Medical Gazette*, Nov. 24th, 1843), in which the mortality was very apparent. The result of this table was, that of the twenty cases, fourteen died within nine months, two within eighteen months, and four in several years, after the first operation of paracentesis. "And it further appears," said he, "that paracentesis does not prolong life for more than eighteen months and nineteen days, and that one in five dies from the effects of the first operation." He (Mr. Lee) had also collected a table in which forty-six cases have been referred to, and thirty-seven of which died. Death took place in one in a few hours; in one, in twelve hours; in one, in twenty-four hours; in two, in two days; in one, in three days; in three, in four days; in one, in seven days; in one, in twelve days; in one, in two weeks; in one, in three weeks; in two, in one month; in three, in two months; in one, in three months; in two, in four months; in six, in twelve months; in one, in eighteen months; in one, in twenty months; in two, in two years; in two, in three years; in one, in six years; in one, in eight years; in one, in fifteen years. Thus proving, that, when the patient arrived at such a period of the disease as that in which the operation of tapping ought to be performed, great danger was very frequently the result. Now this danger not only arose after tapping, but more especially after the first operation; and, in the thirty-seven cases already referred to, eighteen had died after the first tapping: for instance, eighteen were only tapped once; two, twice; one, three times; two, four times; one, five times; one, seven times; one, ten times; one, twelve times; one, twenty times; one, twenty-three times; one, twenty-nine times; one, sixty-six times; one, seventy-eight times.

Not only was the operation of tapping dangerous, but the disease itself was of only short duration. He had collected 123 cases indiscriminately, from all the periodicals, in which the duration of ovarian dropsy, under any or every treatment, was mentioned. That was to say, the space, from the time of abdominal enlargement, to the death of the patient, was observed. Of the 123 cases, ovarian dropsy had existed at death in thirty-eight, one year, or under; in twenty-five, two years, or under; in seventeen, three years or under; in ten, four years, or under; in four, five years, or under; in five, six years, or under; in four, seven years. or under; in three, eight years, or under; in one, nine years, or under; in one, ten years, or under; in five, twelve years, or under; in five, sixteen years, or under; in one, twenty years, or under; in one, twenty-two years, or under; in two, twenty-five years, or under; in one, fifty years, or under. So that it will be seen, that ninety patients of the 123 did not survive four years. Also, in forty additional cases, collected from private sources, ovarian dropsy had existed in eight, one year, or under; in eleven, two years, or under; in eleven, three years, or under; in four, four years, or under; in two, six years, or under; in one, seven years, or under; in one, eight years, or under; in one, twelve years, or under; in one, thirty years, or under. Thus giving an additional evidence as to the mortality of ovarian disease, thirty-four out of forty having died within four years. Dr. F. Bird had also kindly favoured him with fifty cases, which had occurred in his own practice, where four died within one year; twelve within two years; twelve within three years; ten within four years; six within five years; two within eight years; two within nine years; two within ten years. It was thus seen, from the combined results of these observations, that the duration of ovarian dropsy was, in the great majority of cases, confined to four years—viz., 162 to 213.

Dr. Locock had seen seven cases in which pressure had been applied during the last two years, and in none had there been any return. In all the cases but one, tapping had preceded the pressure, and in one only two teaspoonfuls of fluid was drown off. Pressure alone, in cases of solid tumour, had decreased the size of the growths. With respect to the mortality after tapping, as exemplified by the statistics of Mr. Lee, he could only say, that it was contrary to the experience of all practical men and hospital surgeons. He could only compare such statistics to the collection of deaths resulting from tooth-drawing, which would only be collected from their rarity; so death in these cases was remarkable from its so soon occurring after operation. No man of experience would bear out those statistics.

[Mr. C. Hawkins agreed with Mr. Lee as to the mortality of tapping. He thought that the plan of pressure should be further tried, and said that he believed incision justifiable in some cases.]

Dr. Murphy, in reference to the effects of tapping, remarked that no man's single experience could give us a correct idea on the subject, for in many cases we knew only the immediate result, the tapping, it was said, having "cured." Statistical information only could be fairly relied on, and Mr. Lee's attempt in this respect was valuable. Those statistics went strongly against the operation of tapping, for they showed that generally it was unsuccessful.

Medical Gazette, April 2, 1847, *p* 605.

203.—*Case of Ovarian Disease.*—By G. Norman, Esq.—[A lady with all the symptoms of ovarian dropsy, having a large and tense abdomen, and distinct fluctuation, was tapped: no fluid issued from the canula, nor did any follow its withdrawal.

The symptoms were not aggravated by the operation, but in a few weeks she died; and, post mortem, the trocar was again passed without giving exit to fluid.]

On opening the abdomen, the cavity of the peritoneum was found full of a gelatinous substance like glue, which could be drawn out in long strings, and would not drop. This tenacious fluid could with difficulty be removed, though a bucket full was taken out. There was then found a cyst of the right ovary, not capable of holding a quarter of the fluid taken out. The cyst appeared to have burst, then lessened in size, while the secretion still went on from its lining membrane into the cavity of the abdomen, causing the sense of fluctuation.

Charing Cross Hospital
Students' Room

[A case similar to the above in the character of the fluid occurred in the practice of S. Smith, Esq., of Leeds. On tapping, the contents of the cavity were found of such a consistence that they could only be evacuated by taking hold of the portion which protruded through the canula, and drawing it out by winding it over the hands, as one would wind a rope. In this manner many gallons were evacuated.]

Dr. Blackmore gives the particulars of a case of nodulated ovarian disease. There could be felt three distinct sacs fluctuating under the hand, and the fluid could be pressed from one cyst into the other. From the reduced and weak state of the patient, nothing but graduated pressure was recommended; after a while, a quart of thick puriform fluid was at once discharged from the vagina; discharges of such matter lasted for six weeks, while she gradually regained her flesh, lost her night sweats, hectic, &c.; and on her recovery, it was found that two of the cysts had disappeared, and that the smaller one alone remained.

Prov. Med. and Surg. Journal, Jan. 27, 1847, *p.* 47.

204.—*On Ovariotomy.*—By G. SOUTHAM, Esq., Surgeon to the Salford Royal Hospital and Dispensary.—[It is only recently that facts have become sufficiently accumulated for us to draw conclusions from them. A majority of the authorities upon this subject consider ovariotomy a justifiable operation, but some still refuse to sanction it.]

Provincial Transactions, 1847, *p.* 93.

205.—*On a New Method of Passing a Ligature round Uterine Polypi.*—By Dr. W. S. OKE, Physician to the South Hants Infirmary.—[The ligature is confessedly the safest remedy for uterine polypi, although its operation is tardy, and its application in many cases attended with difficulty. Dr. Oke proposes an instrument, and a mode of application, which, he thinks will remedy the latter evil. He was led to its invention by meeting with a case in which, from the thickness of the polypus, and its position, lying with its end in the hollow of the sacrum, and being attached by its base to the anterior surface of the cervix uteri, he found it impossible to apply the ligature in his usual method by a curved rod, and Sir C. Clarke's straight canula. A *male catheter* was successfully substituted. Dr. Oke says,]

The instruments that have been employed hitherto for the removal of uterine polypi by ligature are:—

First. The double canula, with a silver wire noose.

Second. Levret's instrument, consisting of two silver canulæ, "which are curved in such a manner and so united by a joint, that they are shaped like a pair of forceps. After introducing a ligature through the two tubes, so that its ends hang out of their lower apertures, the instrument is to be shut and passed upwards into the vagina over the polypus, on whichever side seems most convenient; then it is to be opened, and the polypus is to be pushed through the two branches of the instrument, which is to be brought over to the opposite side of the tumour. In doing this the ligature becomes applied round the root of the polypus ond forms a noose. The extremities of the ligature are next drawn as tightly as possible out of the lower openings of the canulæ, and tied first in a surgical and then in a slip knot; the instrument is then shut and the ligature constricts the root of the polypus."—*Cooper's Dictionary of Practical Surgery.*

Third. An instrument, described by Nissen, "de polypis uteri." It consists of two silver canulæ equal in size, somewhat curved, and twelve inches in length. Through each of the canulæ a strong ligature is to be passed, the ends of which are to hang out of the lower apertures, and its middle portion to form a noose between the upper apertures of the instrument: the tubes, being kept together, are to be introduced into the vagina as far as the root of the polypus; and whilst one is held fast, the other is to be carried round the tumour, till it rejoins its fellow. The ligature is thus made to encircle the root of the polypus; and, having ascertained that it is properly placed, the two tubes are united by sliding the short canulæ over them, one of which is carried by the finger or by a forked wire to their distal, the other having a ring at either side, is fixed upon their proximate ends; the ligature, having of course been drawn through the short canulæ previously to their application, is now tightened and made fast upon the rings.

Fourth. A curved metal rod, and a straight canula, employed by by Sir Charles Mansfield Clarke. The rod is shut into a wooden handle, and by means of a string stop, to regulate the length of the rod, the instrument ranges from eight inches to eleven inches and a half. The canula is seven inches long, the upper end of which, for about four inches, is of the size of a large goose-quill; at its lower end it is stouter, and consists of a fine screw, adapted to pass through a female screw in the centre of a circular box-shield, two inches and a half in diameter, for the purpose of regulating the length of the canula, and of preventing any mischief to the uterus or vagina by the upper end of the instrument. The rod carries the ligature round the root of the polypus; and both ends of the silk having been drawn through the canula, by means of a long piece of wire hooked at the end, the tube is directed by it to the root of the polypus, when the ligature is tightened and made fast to two rings at the foot of the canula.

Fifth. Three straight slender rods, used by the late Dr. Gooch. They are all of the same length, eight inches, and of the size of a common knitting-needle. Two are perforated at the upper end; the third has a small ring projecting obliquely from its upper, and a short transverse wire across its lower end. The perforated rods are for the purpose of carrying the ligature round the stem of the polypus, and having done so, they are brought together in a parallel position, and, with the ligature, threaded through the ring of the third rod, which is then pushed up to the stem of the polypus. The two first rods being withdrawn, the ligature is tightened and made secure to the cross wire.

Many of these instruments display great ingenuity, and deserve much praise, especially the double canula of Nissen; Sir Charles Clarke's canula, with its shield; and Gooch's fastening rod; and, in the generality of cases, with attention and a little patience, they answer the purpose; but still, in my judgment there is room for improvement, and I would propose the following alterations:—

The instruments are to consist of three metal tubes, two of which are to be of the length, shape, and size of a No. 8 male catheter, except that their sides are to be flattened, and that there be no rings at their lower ends. The curved extremities are to be rounded, each having an orifice in the centre, with smooth edges, and large enough to admit a strong ligature. The third is a stouter tube of the same diameter, eight inches in length, and straight to within an inch of its upper end, which is to be slightly bent and bulbed. A short transverse bar is to cross its lower end, at about an inch from the extremity.

Position of the patient.—Nothing conduces more to the facile use of instruments, than a proper position of the patient. She is to be placed on her left side upon a mattrass, with her trunk lying transversely across the long diameter of the bedstead, and her ischia upon its edge; the femora are to be well flexed, and the knees half bent and kept separate by a pad or small pillow.

Mode of application.—The two curved canulæ, containing a well-oiled ligature, and exactly fitted together at their flat sides, are to be introduced into the vagina with the concave surface to the pubes, their curved ends being directed to the anterior part of the stem of the polypus by the forefinger of the left hand. An assistant takes charge of the left tube, and the ligature being reflected and held between his finger and the canula, he keeps the instrument fixed in its position by pressing it steadily against the arch of the pubes at the *left* side of its fellow. The canulæ are now to be cautiously withdrawn, by depressing their handles towards the abdomen, and as their points are quitting the vagina, the ligature is to be caught between the finger and thumb, and held tense till the canulæ are completely clear of it; it is then by means of a hooked wire, to be drawn through the third tube at its bulb end, which it guides to the root of the polypus. Having ascertained that no part of the os uteri is included within the noose, and the bulb of the tube being turned to the polypus, the ligature is tightened and secured upon the cross at the foot of the instrument.

The advantages of this method of tying uterine polypi are—*first*, that it establishes a fixed point for the ligature, close to the os uteri, and which was scarcely attainable by any former method on account of the unsteadiness and mucosity of the surface of the polypus. *Second*, the length and curve of the canulæ, by which the ligature can readily be slipped round the root of the polypus by the second canula, from the fixed point established by the first. *Third*, the curves of the canulæ taking the course of the pelvic by the second canula, from the fixed point established by the first. *Third*, the curves of the canulæ taking the course of the pelvic outlet, gives a freedom to the operation, of which, by the means hitherto employed, it has been comparatively deprived.

And, *lastly*, there is also an advantage in the bend and bulb of the third tube; the former allows a direct action to the ligature, the latter prevents in great measure, all danger of the uterus or vagina being injured by any incautious movement of the patient.

Provincial Medical and Surgical Journal, Dec. 2, 1846, *p.* 569.

206.—ON DYSMENORRHŒA.

By Dr. Oldham.

Physician-Accoucheur and Lecturer on Midwifery, at Guy's Hospital.

[Dr. Oldham commences an interesting paper by observing that Dr. Simpson has adopted the same view of the formation of the dysmenorrhœal membrane, as that which for some time he, (Dr. O.) maintained. Dr. O. has been accustomed to describe the dysmenorrhœal membrane as a false decidua, being formed by the enlargement of the uterine glands in the same way as the uterine decidua. A complete notice of this view will be found in the Medical Gazette, April 16, 1846, to which we beg to refer our readers. After relating cases of contraction, and closure of the os uteri and vagina, Dr. Oldham states his belief, that contraction of the upper part of the vagina, and the os or cervix of the womb, tend directly to lessen the monthly flux of blood, and that this is characteristic of the mechanical form of dysmenorrhœa. These malformations generally exist either at the internal or external orifice of the womb; but in Dr. O's. cases their situation was at the true os uteri. We subjoin the views entertained by Dr. Oldham on this interesting and practical subject. In the Medical Gazette just referred to, (see also Retrospect, Vol. xiv. p. 371,) Dr. Oldham says,—]

After noticing some morbid changes of the uterine glands, the following sentence occurs:—"But it is particularly the action of the ovaries which calls forth their growth; and I hope in a subsequent lecture to shew you that the membrane which in one variety of dysmenorrhœa is cast off from the uterus, is in fact formed by these glands." It is just this view, and no other, which I have extended in this paper, and which forms the leading fact in Dr. Simpson's.

There are two forms of dysmenorrhœa, which admit of being well defined: the one is, where the os uteri is too narrow, and thus the flow of the menses is impeded, and, as I shall endeavour to shew, is generally scanty; and another form is to be distinguished by a membrane being cast off from the cavity of the womb. The former may be called mechanical dysmenorrhœa, and the latter membranous dysmenorrhœa. In the present communication I propose to make a few observations on both forms of this disorder.

The two following cases are selected, to illustrate, by their contrast, some practical points on the mechanical form of dysmenorrhœa.

Case 1.—*Painful and scanty menstruation in a married woman; sterility; division of cervix; cure.*—Jane C——, æt. 31; a tall, rather stout young woman, apparently in good health, has been married two years, but without pregnancy. She applied to me for advice on the 26th of October, 1845, complaining of severe suffering during the menstrual periods, and particularly of her sterility. She had been reproached by her husband for being unlike other women in this last respect; he had treated her with great indifference, and had caused her much distress. She has always menstruated with pain and sparingly, but since her marriage the periods have been still more painful. They recur once a month, and the flow is preceded for two or three days with dragging rending pains (these are her own words) at the lowest part of the abdomen, with a burning and tense sensation about the vulva, with occasional pruritus. Sexual intercourse is painful for a few days before the period; the seat of pain being deep within the pelvis, probably the uterus itself. The pelvic pains diminish when the flow commences, but she then experiences a sense of cold, with pain above the groins, and a great deal of back-ache. At first the discharge is thin, and of a light green colour; it then gets more red, but pale, and the flow lasts from two to three days. She has had a slight leucorrhœa during the intervals, but not at the present time, or for the last three months. She has just passed through a period. On examination the uterus is well placed, and perfectly moveable, and feels to be of normal volume. The cervix projects into the vagina as it should do; its tissue is soft and impressible, and it is not painful to the touch, but the os uteri is extremely small and contracted, like the hole of a common watch-key.

I resolved, in this case, to dilate the os uteri with the concealed bistoury which Dr. Simpson invented for the purpose, which was done without difficulty on the following day. The os was incised on one side without causing pain, and with scarcely any bleeding. A small-sized sponge tent coated with tallow was then fixed in the os uteri, and the patient was kept in one position without moving. The bladder had been previously emptied. On the following day a common metallic sound was passed without difficulty or pain, and the length of the uterus from the fundus to the os uteri was found to be two and a-half inches. Between this time and the next monthly period, I passed at intervals of a week, stems made of German silver, gradually increasing their size, and they were kept in the channel of the cervix for half an hour without producing pain. By these means the cervix and os uteri were dilated as much as was necessary.

On the 10th of November, 1845, the report is, she has passed through a monthly period more freely than she has ever done. The flow lasted five days, and with scarcely any pain. She is in good spirits, and is very grateful for this relief. I passed a full-sized metallic stem without difficulty.

This patient visited me every week or fortnight, during which I treated her principally for a cough and hoarseness to which she was subject, without touching the womb.

On the 2nd of February, 1846, she complained of severe pruritus at the commencement of the last catamenial period, which had not left her entirely since. The pain was referred to the inferior part of the vulva. This symptom was effectually relieved by a fomentation of the dec. papav. liq. plumb. diacet.; aperient medicine and rest.

At the end of April she first missed the menses, and she is now seven months advanced in pregnancy.

Case 2.—*Painful and scanty menstruation in a single woman; division of the cervix; very partial relief.*—Matilda Rainsbury, æt. 32, an unmarried woman, of short stature, rather stout, and of healthy look, applied for advice as an out-patient of Guy's hospital, complaining of scanty and intensely painful menstruation. The periods came on regularly, but lasted only one day, and for two days before and during the flow she suffered great agony. The pains are darting, sometimes throbbing, felt principally at the back and deep within the pelvis, with occasional dysuria. During the menstrual time she is never free from pain, but sometimes for six hours together her suffering is so severe that she is obliged to go to bed, and literally rolls about in anguish. I tried in vain to cure this affection by attention to the general health during the intervals, and by varied forms of sedatives, both locally and internally, during the periods. She improved, but still suffered severely. A vaginal examination was readily acceded to, and I found the vagina itself loose and relaxed, owing, no doubt, to a profuse leucorrhœa, which had troubled her for three or four months. The uterus was rather low down, perfectly moveable, and of light weight. The cervix was small, and the os uteri very strikingly contracted. I divided the cervix in this case at the hospital, which gave her but little pain, and a trifling bleeding followed. In two days afterwards I passed a metallic stem, and kept it within the cervix for a short time. She felt faint when the stem was passed, and I found that the length of the united cavities of the uterus and the cervix was barely an inch and three-fourths. The metallic stem was again passed a few days before the expected period. The effect of this operation was to relieve much of the actual pain at the next period, but the flow still lasted a single day. This woman is still among my out-patients, but she continues to have scanty and painful periods, although far more bearable than before. Two months ago I again dilated the cervix, but without any better result.

It will be seen, in the first case, the benefit of an artificial section of the cervix was most marked. An immediate relief to the pain of menstruation, a greatly increased flow, and a cure to a sterility which had lasted two years, followed upon it. In the second case we notice as the result of the dilatation a partial relief to the pain of menstruation, but without further advantage. The first case affords a proof that in some cases of dysmenorrhœa the operation proposed by Dr. Macintosh, or a modification of it, is legitimate and most useful; and that by it we may, if I may so say, release the functions of the womb from a restraint which is essentially morbid. And taking the two cases together, there is also another inference, that the simple presence of a small os uteri is not enough to warrant its performance. I believe that the main distinction which ought practically to be made in the two classes of cases which I have typified by those which I have related, is this—that in the one there is a full development of the internal organs of generation, with one error only, namely, a morbidly small outlet to the womb; in the other the whole sexual system is but imperfectly developed, and the narrow orifice is but a copy of the deeper seated organs. This is to be distinguished by the signs furnished by an internal examination. The volume of the uterus, and the size of the cervix, in the first case, was felt to be large and well developed, and the measurement of the cavity was two and a half inches. In the other case the volume and weight of the womb was ascertained to be under the standard size, which was conclusively proved by the measurement of its cavity, which was three-fourths of an inch below the first. It is hardly necessary for me to say that any one accustomed to the examination of the uterus can tell pretty accurately by its range of mobility and the feel of its weight when balanced, with the appreciable size of the cervix, whether it is below or about the average size, and that to sound its cavity affords another and more direct proof of the fact which is sought for.

The following is a summary of the views which from observation I have been led to entertain on this subject:—

1. There is a form of difficult menstruation which depends on some morbid contraction of the sexual passages, which may be either congenital or acquired, and affect either the os uteri internum or externum, or the upper part of the vagina.

2. That this form of dysmenorrhœa is usually accompanied with a scanty flow of the menses, and sterility.

3. That a great practical distinction is to be drawn between a womb which is altogether small, being imperfectly developed, and in which the os and cervix are also small, and a womb which is well developed, but with a morbidly contracted orifice. The former cases are allied to amenorrhœa; the latter are essentially cases of difficult and impeded menstruation.

4. That in this latter class of cases, which in practice will be found to be *very rare*, a perfect cure may be obtained by opening and dilating the cervix.

5. That division of the cervix, and the passage of a metallic dilator, affords an easy expedient for this purpose.

Medical Gazette, Nov. 27, 1846, *p.* 919.

[Dr. Oldham then records a case of painful but copious menstruation, with portions of dysmenhorrhœal membrane, and a large and retroverted womb.

On several occasions, patches of this membrane had been cast off after severe suffering at the menstrual period. Leeches were applied to the uterus once a week, rest enjoined, and mercury administered, which afforded much relief.]

Mrs. G., æt. 31, living at Bow, was pregnant soon after marriage, and bore a living child, which is now nine years old. Since this time she has had several early abortions at the fifth or the sixth week; and a year ago, when pregnant, she was much frightened at an accident to her husband, and again miscarried. Both before and since this time, she has suffered a great deal from pains in the back and hips, for which she has been under medical treatment.

She first consulted me on Nov. 20th, 1844, when she was evidently suffering severely. Her countenance was distressed; she walked with pain, and appeared to be much out of health. Her symptoms were referred almost entirely to the uterus. She complained of habitual pain, which she called painful pressure, at the sacrum, running down to the anus; constant pain in the right inguinal canal; occasional dysuria, which, with the other pelvic symptoms, was much increased by walking or exertion of any kind. When she sat down there was pain produced within the pelvis. The bowels were relieved without pain. A copious thick discharge, sometimes white and at others yellowish, had troubled her for years. Sexual coitus had caused much suffering, and, in fact, had been abandoned. She menstruates regularly, but with severe pain; sometimes copiously, so that several clots escape, and sometimes shreds of membrane have been noticed: she feels better and lighter after the periods.

On examination, the vagina was found loose and hotter than usual, and freely bathed with discharge. The posterior wall bulged a little beyond the ostium vaginæ. The uterus was found within two inches of the orifice of the vagina: the vaginal portion was tumid, soft, slightly painful to the touch; and the os, which was patent and uneven, gave that feeling of raised soft granulations which characterizes the most common form of ulceration of this part. This portion of the womb was directed towards the under surface of the urethra. The body of the womb was readily felt backwards towards the hollow of the sacrum. It was much swollen, very tender when touched, and was evidently retroverted. On directing the finger to the front part of the cervix, and pressing the part downwards and backwards, the body of the womb was readily redressed, and she felt at once a relief from the painful sense of pressure in the sacrum and hips. When the finger was removed, the womb fell heavily back again towards the sacrum.

By speculum, the cervix showed a surface of vividly injected granulations, and a large plug of mucus was pressed out from its cavity.

The treatment in this case consisted in scarifying the cervix, and thus bleeding the womb; taking from one to two ounces of blood at a time, which was repeated on several occasions. She was kept at rest; the bowels were relieved by saline aperients, and she used the following injection:—Dec. papav. vj.; ext. conii, ℈j.; liq. plumb. diac. ʒij. Speedy relief followed the use of these means, and I did not see her for some time.

[A considerable time after this, she again passed some detached portions of membrane.]

The uterus was found retroverted, and the body was swollen into a large globular hardened mass, painful to the touch. Any exertion produced great pain in the sacrum and hips, which was again at once relieved by redressing the womb during a vaginal examination.

[The uterus was now leeched once a week. She was kept strictly at rest, and put under a course of mercury. This treatment was successful.]

This is a case which in its general features is frequently met with in practice, and it may be very well taken to illustrate the pathology, symptoms, and treatment, of the membranous form of dysmenorrhœa. It will be seen that painful menstrual periods, with a copious rather than a scanty flow, the unfolding and casting off of portions of membrane, then a large heavy indurated womb, the weight of which destroys its balance and displaces it backwards, are the principal signs to be noticed. Partial prolapse too, congestion and ulceration of the cervix, with sterility, may also be remarked.

The membrane which is thrown off from the womb in this disease varies in its appearance; sometimes a clear tubular cast of the uterine cavity is expelled, although this, I believe, is comparatively rare. More frequently, small portions the size of the nail, or larger pieces of an irregular shape, are detached, and cause severe suffering in their expulsion. Sometimes the menstrual blood coagulates around a portion of the membrane, and comes away as a hard compact clot. Very often the discharge consists of thin thread-like portions, and sometimes half a cupful or more of thick branching tufts, very much like the chorion villi filled with blood, will be thrown out from the womb. This latter variety of discharge has, I believe, been mistaken for the so-called hydatid degeneration of the placenta, which I feel persuaded never takes place unless impregnation has preceded it and a true chorion formed. How is this membrane produced? It is generally thought to be lymph, but if some good specimens are carefully examined they will be found to possess the same structural elements as the uterine decidua. Not only do they resemble the decidua in having an attached rough surface and a smooth free one, but what is far more significant of their identity is, that they are full of little holes with epithelial scales, which I cannot doubt are the openings and epithelium of the follicles of the uterine glands. It is very true, as Dr. Montgomery has noticed, that the small cotyledonous sacs are wanting. But this is often the case in the flaps of uterine decidua which are thrown off in abortions, although here and there very perfectly formed specimens of them are to be found. I doubt whether the swollen uterine glands bulge out into sacs until the ovum gets fixed by its exochorion within them, as, in two specimens of extra-uterine fœtation which I have examined, the very exhuberant decidua, with its characteristic apertures and epithelium still remains tubular without expanding into cells. I have for some time entertained the conviction that the membrane cast off in dysmenorrœa is formed from the enlarged uterine follicles, just in the same way as is the uterine decidua, and that, like it, it is detached from the cavity of the womb. The shred like masses are caused by a very recent and imperfectly formed membrane which breaks up and becomes mixed with and stained by the menstrual blood.

The practical bearing of these remarks is, that as the uterine decidua is formed under the influence of an action going on in the ovary, so the membranous dysmenorrhœa is not primarily an affection of the womb, but of the ovary. In healthy menstruation the congestion of the ovary, the engorgement of the womb, the opening of the veins on the surface of the cavity of the womb, and the flux of blood, are all in harmony, the latter being, so to speak, the resolution of the former. But when the ovaries are unduly excited, as, for instance, from the prevalence of one or more of the numerous ways in which sexual feelings may influence them, then the uterine glands sympathetically enlarge, the lining membrane of the womb becomes raised, and the body of the womb swells out. This change in the mucous membrane goes on during the interval between the monthly periods, and when the flow begins the new formation is cast off, and the uterus in the act of detaching and expelling it becomes the seat of very painful contractions. Gendrin, Jörg, and others, have enumerated amongst the changes which are observed in the internal sexual organs during menstruation, that the lining membrane of the womb is covered with fungiform villi which are probably vascular. And this observation would seem to be related to Müller's idea, "that menstruation is the result of a periodical regeneration, a kind of moulting of the female generative organs, attended, perhaps, with the formation of a new epithelium."* I lately examined the uterus of a young female who died menstruating, but the mucous membrane was still clear and smooth. Blood exuded freely when the substance of the womb was pressed, but there was no appearance of that raising of the lining membrane of the womb which is erroneously described as from fungiform villi. I very much doubt whether this change, and the consequent periodical moulting of the mucous membrane of the uterus, occurs uniformly during menstruation. It is speedily produced, however, under any morbid excitement of the ovaries, and it is then cleared off either in threads, or thin flimsy portions, or in larger and denser patches, according to the degree of development at which it has arrived.

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* *Vide* Muller's Physiology, translated by Baly, Vol. ii., p. 1482.

But there is a sequel of the membranous form of dysmenorrhœa which merits more attention, namely, the tendency of the womb to become permanently bulky and hard, and as the result of this to become retroverted. I can bear testimony to the truth of an observation of Dr. Rigby, that retroversion is one of the most common affections of the unimpregnated womb, and I would add, that one amongst several causes which produces it is the continuance of this membranous dysmenorrhœa. It will be noticed in the case I have related, and it is a mark of distinction between this and obstructed dysmenorrhœa, that at first a copious menstrual flow took place—menorrhagia, in short. This symptom, while it shows the way in which two different functional disorders of the womb are associated together or run into one another, is, I believe, a salutary effort to relieve the morbid congestion of the uterus. Like hæmorrhage from other organs when diseased, it is really conservative, a useful topical bleeding. But after a time the uterus does not recover itself, it becomes heavier and larger, and it appears that the posterior wall swells out more than the front wall, and then the womb loses its natural inclination forward; it first becomes vertical, then inclined backward, and at last retroverted. This change occurs slowly, sometimes taking many months to accomplish. The texture of the womb becomes altered. In a recent congestion the posterior wall is felt soft, compressible, and painful to the touch, but after repeated engorgements the tissue becomes harder, more solid, very much like a fibrous growth. A further change, too, I have noticed, which is, that occasionally when the womb is thus displaced, it excites inflammation in the neighbouring peritoneum, false membranes are formed which fix the womb, and an irreducible retroversion is the result.

I have laid some stress on the swelling of the posterior wall, because it appears to me to be more sensibly affected by congestion than the anterior wall. The natural convexity of this part becomes still more prominent, and, when examined by the finger, it often feels so round and solid, and swells out so abruptly from the cervix, that I am quite sure that it is often mistaken for a fibrous tumour. This swelling of the posterior wall forms a good practical distinction between a womb enlarged by congestion and a womb distended by an early pregnancy. I have been in the habit of depending very much on the even enlargement of the anterior wall of the womb, which is quite appreciable to the finger, as a good diagnostic mark of an early pregnancy. The natural flatness of the anterior wall is quickly effaced by pregnancy; so that, so early as a month or five weeks, this physical change may be detected.

The principal symptoms which I have noticed as the result of the large and retroverted womb have been, an habitual weight in the lower part of the abdomen, and a painful sense of pressure about the sacrum; pain of a dragging kind referred very distinctly to the inguinal canals, but very often only to one of them, with pain in the corresponding hip. There is pain, too, in sitting down, and a feeling as though some body were pressed upwards. If the cervix gets bulky and full, a thick mucous discharge comes on, which frequently is discharged in lumps.

It has been advised in these cases to redress the womb by means of the uterine sound; but, I think, this expedient is very rarely required. If the fore-finger is placed against the anterior part of the cervix, and this part pressed backward, the womb, although large and heavy, may readily be raised and directed forward, and, in the act of reducing it, a sense of its weight and the extent of its displacement is conveyed to the finger. No permanent good, however, is obtained by the operation, as the womb quickly falls back again, and the same symptoms of pressure, which for the moment were relieved, again come on. I have known a great deal of pain caused by using the sound in the way described; and, if the womb is held by false membranes, to attempt to overcome the resistance by the sound would be not only painful but dangerous.

In the treatment of membranous dysmenorrhœa, with a large, hard, retroverted womb, I have found the plan which was adopted in the case described, the most effective. It consists in keeping the patient as much at rest as possible, in regulating the diet so as generally to avoid stimulants, but not to lower the strength, and to give small doses of mercury, so as slightly to affect the gums: two grains of blue-pill, with three of ext. conii, night and morning, or five-grain doses of Plummer's pill night and morning, answer the purpose required. On the first appearance of the gums or palate being tender, I generally give the liq. hydrarg. bichlorid. ʒj. in sarsaparilla or bark, which, while it keeps up the action of the mercury, is really a tonic, and improves the general health. If the patient does not bear mercury well, it is well to commence and continue with this last preparation, and a small quantity of blue ointment, with ext. of belladonna, may be rubbed at night over the inguinal region. Leeches should be applied to the upper and back part of the vagina once a-week. Three or four will in general be sufficient, and I can safely say that they are easily applied, and offer the most effective means that I know of for reducing the womb. Cupping on the loins, or leeching the inguinal regions, are, in my experience, far less useful for the purpose. In the case which I have related the cervix was scarified several times because of the vascular granulations which covered it; but unless a surface of this kind is present, which bleeds freely on being lightly cut, I do not think it a good plan of local depletion. When the size of the womb is reduced by these means, an occasional blister on the sacrum will be found very useful. I have generally found patients obtain great relief by their application. The reduction of the womb may be assisted by warm hip-baths, or the injection of warm poppy-water into the vagina. By following out this plan of treatment, and attending to the general health, I have often succeeded in reducing these large, solid, hypertrophied wombs, with the dysmenorrhœa which accompanied them, and the conviction has forced itself upon me, that the cases of fibrous tumour which have been supposed to be cured have really been cases of this kind. When the influence of mercury is obtained, small doses of iodide of potassium, or, what I have found more useful, small doses of the liq. potass. arsen., may be given with advantage. The latter medicine should be administered in the way recommended by Mr. Hunt—on a full stomach, and in decreasing doses.

Sometimes the womb has so long been displaced, and is so very hard, that it seems to resist any attempts at cure. I have now a case of this kind under my care in a woman æt. forty-eight, who has ceased to menstruate for a year and a half. In this, as in similar cases, the metallic stem support described by Dr. Simpson effectually retains the womb *in situ*, but I have not found this instrument desirable in other cases. The object generally is not to support a large womb, but to lessen its size, to stop the ovarian excitement which is causing it, and to secure its spontaneous reduction. In these cases much comfort is obtained by an elastic abdominal belt, with a perineal support.

The views which have been propounded on this subject may be expressed in the following conclusions:—

1. There is one form of menstruation rendered extremely painful from the production and casting off of a membrane from the cavity of the womb.

2. That this membrane is not a product of inflammation, or a thick mass of epithelium, but it is formed from the uterine glands just as the decidua is, and is detached and expelled in the same way.

3. That the morbid action does not begin at the uterus, but in the ovary; and the sequence of effects is first ovarian congestion, calling forth a sympathetic growth of the uterine glands, forming a false decidua, and uterine engorgement.

4. That this uterine engorgement is oftentimes relieved by a profuse menstrual flux; but if not, the posterior wall of the womb gradually increases in bulk and becomes hard, the balance of the womb is spoiled, and the body falls back, retroverting the womb.

5. That the swelling of the posterior wall, and the falling back of the womb, forms a differential diagnosis between congestion and early pregnancy, the anterior wall enlarging in the latter, and the body of the womb directed forward.

6. That the symptoms of retroverted womb from this cause are not often those of mechanical obstruction to the other pelvic viscera, and they are for the moment relieved by redressing the womb, which may almost always be effected by the finger without the aid of the sound.

7. That the treatment consists in strict attention to the general health, but that the most effectual way of removing the disease with the enlarged womb is by leeching the uterus, and the use of mercury.

Medical Gazette, Dec. 4, 1846, *p.* 970.

207.—ON LEUCORRHŒA.

By Dr. Mitchell, Dublin.

[Some time ago, Dr. Mitchell suggested the application of the firing iron along the spine, for the relief of one of the most urgent symptoms in leucorrhœa—pain in the back. His experience has since shown the benefit arising from its use. As to the origin of leucorrhœa, he says:]

In looking over works on diseases of females, we shall find that a variety of discharges come under the one generic term of fluor albus or whites, many of them having no connexion with the uterus, except only as it affords a means of transit—I allude to discharges of pus from the ovaries, &c. Again, a white discharge may appear as the consequence of acute, sub-acute, or chronic inflammation of the uterus. It is also well known that the vagina itself may be the seat of the disease, giving rise to what has been termed vaginal leucorrhœa, in contradistinction to uterine. It is to this latter form of disease that my attention has been directed more particularly.

For the purpose of more accurately stating the plan which I adopt in the treatment of uterine leucorrhœa, I shall trespass on your patience for a moment whilst I call your attention to the composition of the lining membrane of the uterus. Heister, Morgagni, and Madame Boivin, compare it to the serous membrane which lines the vascular system; Cruveilhier admitted that it was mucous membrane during pregnancy only. That mucous follicles are only to be found in the cervix has been held by many anatomists, and that a totally different membrane was present in the fundus—in fact, that the uterus contained both mucous and serous membranes. Those who hold this view of the case maintain that in all cases of uterine leucorrhœa the source of the discharge is the cervix, and that all that is necessary to cure the disease is at once to obliterate the vesicles of Naboth; and M. Huguier goes so far as to propose that the cervix uteri should be freely divided with a long-bladed knife, in order that the surface may be more effectually cauterized. When we recollect that the fundus uteri is the chief source of the catamenia, we are at once inclined to think it impossible that the leucorrhœa which often supplies the place of the sanguineous flow, and generally precedes and follows it, can have any other source. Madame Boivin, speaking on this subject, says, "With regard to the cervix, it is well known that it has numerous follicles, and secretes a viscid and abundant mucus in its natural state; and that leucorrhœa is an accompanying symptom in many affections in which the cervix only is diseased, it may also be observed that lectiform whitish discharges per vaginam are very frequent in new-born infants, in whom the body of the uterus and the fallopian tubes are very small, and the cervix uteri much developed, open, and generally filled with a copious viscid mucus." We are, therefore, I think, warranted in coming to the conclusion, that there are two species of *uterine* leucorrhœa—one, in which the disease is situated in the cervix; and the other, in the fundus and body; and this view of the subject receives considerable support from the experiments of Weber, who has shown with the microscope the existence of follicles in the fundus uteri, in the cow, and also in the human subject during the second month of utero gestation; besides which, according to the statement of M. Chassaignac, the secretion in the fundus uteri is acid, whilst that of the cervix is alkaline. Here, then, we have, I think, sufficient data to go by, and I conceive that if we have any means in our power of ascertaining with facility whether the source of the disease be from the cervix or fundus, one of the greatest objects in a practical point of view is effected, and this desideratum I am of opinion has been achieved.

The instrument which I now exhibit is simply a gum-elastic catheter, having its extremity free. You will perceive that the stilet which passes through it is furnished at the end with a protuberance, behind which a number of slight notches are made for the purpose of more firmly fastening a piece of litmus paper on it. The instrument being thus prepared, and the patient in a proper position, the speculum vaginæ is introduced, and the catheter passed for about an inch through the cervix uteri. The stilet is then gently protruded, and allowed to remain quiescent for a short time to permit the paper to be moistened with the discharge in the cervix uteri; it is then withdrawn again into the catheter before the latter is removed from the cervix. The entire instrument is then withdrawn and the paper examined; if it come back of its original blue colour, the disease is in the cervix; if, however, it be reddened, we have then evidence to prove that the source of the discharge is from the fundus uteri.

Having ascertained the seat of the disease, the after-treatment becomes very simple in the event of it being found to be in the cervix. The catheter should again be introduced without the stilet, and having previously filled the gum-elastic bottle with any fluid which may have been selected, it may be attached to the catheter, and the fluid gently injected. The fluids that I have used have been diluted sulphuric acid, in the proportion of half a drachm of acid to the ounce of water, and also a solution of acetate of lead—ʒss. to ℥i. of water. In some cases, where there has been a difficulty in passing the instrument into the cervix, or where the inside of the lips of the os uteri have been abraded, giving rise to a slight oozing of blood, on the gentlest attempts to introduce the tube, I have not persisted, but have contented myself with applying nitrate of silver to the surface, so as to heal the ulcer prior to passing the instrument. In like manner, where the mucous glands of the cervix are much enlarged, I prefer smearing the extremity of the tube with an ointment consisting of ten grains of nitrate of silver to a drachm of sperm ointment, having previously passed the instrument without any ointment upon it, and wiped it clean from all adhering mucus—a precaution just as necessary as that required in ulceration of the os uteri, as the application would otherwise be prevented from exerting its full influence on the diseased surface.

The introduction of the instrument (if no force be employed) is very easily effected, and little or no pain is felt by the patient. In some I have observed a sensation of sinking, and they have told me they felt faint, as if about to be unwell.

In my first experiments I introduced the instrument quite through the cervix into the body of the uterus, having previously covered the extremity of the tube with a piece of soft wax to prevent the admission of any fluid in its passage through the cervix. On consideration, however, and taking into account the increased suffering produced by the passage of the tube so far up, one woman suffering so much from pain in the hypogastrium, which continued for more than two hours after its introduction, so as to excite considerable alarm in my mind, I determined not to pass the instrument beyond the cervix, as in the event of the discharge coming from the fundus, it should necessarily pass through the cervix, and thus give as satisfactory a proof of the source of the discharge as if the instrument had been passed higher up.

I also discovered that the temperature of the injection produced a considerable effect upon the woman, and that where it was employed quite cold, that the shock was sometimes very great. To obviate this, I have latterly taken care that the injection shall be tepid, and although I cannot say that it is quite as powerful an astringent as when used cold, still I have found it very beneficial, and far superior to the common methods employed.

It will be observed that I have spoken chiefly of the disease when the cervix uteri has been affected, but I have found a similar treatment of great value in those cases where the fundus was decidedly its seat. From the cases I have as yet employed it in, I should feel inclined to say, that as a mere local application it is invaluable; but it will not in a weak anæmic female restore the natural good health, nor could it be expected; so that whilst advocating its utility, I by no means wish it to be understood that I undervalue the various therapeutic means which have been recommended for the treatment of this annoying affection.

Dublin Medical Press, Feb. 17, 1847, *p.* 106.

208.—*On the Local Treatment of Leucorrhœa.*—By M. A. Legrand.—[M. Legrand thinks most highly of the efficacy of nitrate of silver, and proposes a mode of applying it which obviates some of the inconveniences arising from the ordinary methods.]

To the use of the nitrate in the solid state he objects, on the ground of its severity and other inconveniences, and rejecting the supposed advantage of the tampon for keeping apart the inflamed opposite surfaces of the canal, he objects to it besides as a foreign body, the presence of which must irritate. Our author's method in opposition to these, is the simple application of an ointment of the nitrate, which may penetrate between the rugæ of the canal. This ointment is composed of one part of nitrate of silver, dissolved in twenty-five parts of water, and then thoroughly mixed with seventy-five parts of cerate. From two to three grammes (from thirty to forty-five grains) of this cerate are put into a muslin-bag, open enough in texture to permit the cerate to pass through under a slight pressure. The fore-finger is inserted into this bag up to the first phalanx, the bag being fastened around it, and the finger so armed is introduced into the vagina, and is carried over its whole extent, so that every sinuosity of the canal and of the vulva may be freely anointed with the contents of the bag.

Our author occasionally employs the ointment of somewhat greater strength. He finds it of the greatest service in various affections of the vagina of an inflammatory character, accompanied with discharges, care being first taken to remove as far as possible those determinate causes with which the affection may be connected. Other remedies may be applied to the vagina by the same method—thus, Dr. Legrand has used successfully by this method, an ointment containing tannin in relaxation of the vagina.—*Gazette Médicale de Paris*, January 2nd, 1847.

Monthly Journal of Medical Science, Feb. 1847, *p.* 632.

209.—*Treatment of Amenorrhœa.*—By — Houlton, Esq.—Mr. Houlton states that he has had frequent opportunities of watching the medicinal action of the Chenopodium olidum, and is perfectly convinced that it is a very safe and important remedy, in many cases in which the catamenial function is not duly performed. He employs the spontaneously evaporated extract in the form of pills, from five to ten grains, night and morning. In general, if the pills are taken regularly for a fortnight previously to the expected return, the beneficial effect of the medicine is manifested; should this not be the case, he repeats them in the same manner,—that is, for a fortnight previously to the expected change. He does not advise this medicine to be given in all cases in which the catamenial flux is suspended, for there are many cases in which attention to the general health will effect a cure, which it would be superfluous to detail. It is in those cases in which the uterus itself requires medicinal aid that the peculiar benefit of the Chenopodium is shown. ---*Medical Times.*

Prov. Medical and Surgical Journal, Feb. 24, 1847, *p.* 106.

210.---*On the Treatment of Amenorrhœa.*---By M. Lallemand.---The remedy here recommended consists of aloes, ergot of rye, and rue, made into pills. Every pill contains about two thirds of a grain of each of these substances, and the number prescribed is from 9 to 18 in 24 hours, or from 6 to 12 grains of each drug in the day. If the case be recent, the proper day for the return of the menstruation is to be reckoned, and the use of the pills commenced on that day; and the pills are employed for four days. If the case is of so long standing that the proper day cannot be fixed on, the time chosen is arbitrary; but if the first trials are unsuccessful, they are to be repeated at the corresponding periods of the succeeding months. These pills are given, morning, noon, and night, in the first months, afterwards they are gradually increased to six, at the same three periods of the day. During each of the four days of treatment, four or five leeches are applied to the vulva, and after the leeches, a vapour bath is used.---*Clinique Medicale de Montpellier* and *Gazette Medicale de Paris*, Decembre 12, 1846.

Monthly Journal, Feb. 1847, *p.* 632.

211.—*Gutta Percha for Obstetric Instruments.*—Dr. Simpson showed to the society some instruments he had made of gutta percha. He alluded to a paper by Dr. D. Maclagan, in the last volume of the Transactions of the Royal Scottish Society of Arts, in which Dr. M. first suggested the use to which this substance may be put in forming various surgical apparatus.

The gutta percha, when cold, or at a low temperature, such as that of the body, possesses a degree of firmness and hardness. On being dipped for a short time into hot water, it becomes quite soft and ductile, and can be moulded into any form with the greatest ease. We may thus easily and speedily fashion from it a pessary, for instance, of any size or form that is required in any particular case. If tried, and found not to be of the proper size or form, it is only necessary to immerse it again in boiling water, after which it can be altered in any way that may be desired. It gets immediately hard on dipping it into cold water. Dr. Simpson showed several different kinds of pessaries he had constructed in this way, some artificial teats, nipple shields, a catheter, a speculum uteri, &c. He further suggested its use for uterine bougies, handles of forceps, &c., &c.

When in their heated and softened state, a smooth and excellent surface could, when necessary, be given to these instruments of gutta percha, by pressing them against a polished metallic surface or die. Dr. Simpson added, that instruments of this material presented the advantages—1st. Of extreme cheapness; 2nd. They made us, in a great degree, independent of the cutler, for they could at the moment required, be fashioned and altered, diminished or enlarged, in part or in whole, at will; and, 3rd. The country practitioner might always carry along with him a sufficient quantity of the material for making these and other obstetrical and surgical instruments, for, by the aid of boiling water, he could readily convert his walking cane or whip handle into them, provided these accoutrements were made (as now many handsome forms of them really are) of this same substance—the gutta percha. It is procured in great abundance from some islands in the Torrid Zone.

Monthly Journal of Medical Science. March, 1847, *p.* 718.

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ADDENDA

ON THE INHALATION OF THE VAPOUR OF ETHER.

[It is singular, that, when an important discovery or suggestion is brought into public notice, and made generally applicable to society, the claim to priority is often made for parties at some antecedent period. Such is the case with respect to the use of ether in operative medicine. There seems to be no doubt that both Mr. Horace Wells and Drs. Jackson and Morton were anticipated in this idea by Sir Humphry Davy, as related in a letter to the Editor of the Lancet, (April 24th, 1847,) by Dr. Barnes.

The following quotation is from Sir. H. Davy's collected works, p. 276.]

"In one instance, (says Sir Humphry,) when I had headache from indigestion, it was immediately removed by the effects of a large dose of gas (nitrous oxide), though it afterwards returned, but with much less violence. In a second instance, a slighter degree of headache was wholly removed by two doses of gas.

"The power of the immediate operation of the gas, in removing intense physical pain, I had a very good opportunity of ascertaining.

"In cutting one of the unlucky teeth, called dentes sapientiæ, I experienced an extensive inflammation of the gum, accompanied with great pain, which equally destroyed the power of repose and of consistent action.

"On the day when the inflammation was most troublesome, I breathed three large doses of nitrous oxide. The pain always diminished after the first four or five inspirations; the thrilling came on as usual, and uneasiness was for a few minutes swallowed up in pleasure."*

"As nitrous oxide, in its extensive operation, appears capable of destroying physical pain, it may probably be used with advantage during surgical operations, in which no great effusion of blood takes place."†

Lancet, April 24, 1847, *p.* 447.

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[*] Sir Humphry's Collected Works—By John Davy, M.D., 1839, p. 216, vol. ii. [†] Op cit. p. 329.

[Although, therefore, this extract refers to nitrous oxide gas, yet the principle is precisely the same as if the sulphuric ether had been used instead, and the effects nearly analogous, if used in the same way and in corresponding doses. Mr. Horace Wells, of Connecticut, United States, seems to have been the next person who made experiments on the use of nitrous oxide gas in surgical operations.

This gentleman, no doubt, brought the principle into more active operation, and made his opinions known in different cities of the United States, in 1844. He preferred the use of the same gas as Sir H. Davy, but seems to have experimented with other kinds as well. His ultimate decision, it appears, was to use the nitrous oxide, as being equally efficacious and not so dangerous as other kinds.

It is, however, to Drs. Jackson and Morton, of Boston, United States, that we are indebted for the real introduction of the vapour of sulphuric ether into the practice of surgery. The reader will find an interesting and able article on the subject in the British and Foreign Medical Review, for April. It is our object at present, to bring forwards such facts and opinions only, as may be useful in a practical point of view: and we will, therefore, proceed to give the opinions and practices of some of those gentlemen who seem to have devoted some time to the investigation of this interesting subject. In the article by Dr. Forbes, this gentleman says:]

The modes hitherto adopted for applying the ether vapour are very various, and the forms of apparatus innumerable. The essential points to be regarded seem to be—1, that the ether be very pure; 2, that the tube conveying the vapour be sufficiently wide to admit a current large enough to fill the respiratory organs without effort; 3, that the vapour be mixed with a sufficient proportion of air to render it easily respirable, yet not so much diluted as to render it long in producing insensibility; 4, that the apparatus possess a means of regulating this proportion accurately, the vapour being always given comparatively weak at the commencement, so that the glottis and lungs be not over-irritated; 5, that the full strength of the diluted vapour be applied as speedily as it can be tolerated by the air-passages, the nostrils being then closed, so as to exclude all extraneous air;—a strong dose, rapidly given, seems to be at once the safest and most successful proceeding; 6, that inspiration be continued, within certain limits, until complete insensibility is attained, as evinced by obvious signs; and, when stopped, to be renewed, for short periods, as often as signs of awaking, manifest themselves during the operation.

The period of time required to produce the full effect of perfect sleep and insensibility, varies considerably in different individuals; but much more, we believe, from difference in the mode of administering the agent, than from difference of individual susceptibility. When the apparatus is good, the ether pure, and the process directed by an experienced manipulator, the average period of inhalation to produce insensibility, may be stated at from two to four minutes: in a few rare cases double or triple this amount of time is required.

It is quite possible to inspire three, four, nay ten times the quantity of ether capable of producing sleep, without this state being induced, provided the vapour be taken in an extremely diluted form; and we believe that this over-dilution of the vapour and its consequent protracted inhalation, is a frequent cause of the *excitement* which supervenes so often in the practice of some persons, while it shows itself so very rarely in that of others. In these cases the patient may be made *drunk*—drunk in the first degree, but not *dead-drunk*, the condition required for chirurgical purposes.

The occasional occurrence of this *excitement* instead of the desiderated stupor, is regarded by some surgeons as a fatal objection to the practice. But we think this opinion is erroneous. In the first place, we believe that the excitement occurs extremely rarely when the process is properly regulated—probably not more than once in a hundred instances; and, secondly, there is no necessity for the surgeon operating at all in the cases in which it does occur in spite of all precautions: he may still have recourse to the old practice of operating on his patient awake. Our own observation, however, and the opinion of those who have had by far the greatest experience in the practice of etherization, lead us to believe that the proportion of persons in whom a state of excitement will frustrate operations, is extremely small.

The average duration of the state of sleep or insensibility, may be stated to be about the same as the period required to induce it; or a little less, say from two to four minutes: the period, however, occasionally exceeds this, extending sometimes to half an hour, or even an hour. The awaking is generally sudden and complete; and in the great majority of cases, the only effects it leaves behind are—a slight feeling of *muzziness* in the head, sometimes amounting to headache, and the odour and taste of ether in the mouth and nasal passages.

The immediate and obvious effects of etherization on the individual hardly require notice, as they must be familiar to all our readers, if not from personal trial at least from observation on others. All the usual phenomena of the deepest sleep supervene almost suddenly, gliding often into the profoundness of sopor, and verging occasionally upon, if not actually lapsing into, coma. The voluntary muscles become suddenly relaxed, the jaw falls, the arms hang down, the eyes roll upwards under the upper lid, the respiration becomes slow and laboured, and the face often becomes either pale or morbidly flushed. The aspect of things is, indeed, such as can hardly be contemplated, for the first time, without alarm: the individual seems, to the common eye, to be sinking into the sleep of death.

The actual effects of etherization on the functions, fluids, and organs of the body have not as yet been thoroughly investigated. Medical men have been hitherto so absorbed in the contemplation of the practical results, that they have had but little leisure or inclination to inquire into the philosophy of the thing. It may be stated, however, that the pulse is at first accelerated, and afterwards falls, but rarely to the natural standard; the respiration seems commonly to follow the same rule. The iris seems to be generally expanded, sometimes contracted.

So long as pain is an evil and ease a good—so long, in other words, as man is man, must any means be prized that is capable of achieving the latter by the abolition of the former. As, then, the pain of surgical operations is certainly among the most terrible of its class, and as it is no longer doubtful that etherization has the power of abolishing this, what remains for our consideration is not so much,—whether this new means shall be hailed by us as a matchless and priceless discovery, and cherished and adopted as a blessed thing: this appreciation has already been made; this adoption has been consecrated by universal practice: what remains for consideration is—*Whether the good is a pure good, or is counterbalanced by attendant evils of such a magnitude as to authorize us to reject it, partially or entirely?* We have already said that the time is not yet arrived for giving a positive and final judgment on the merits of the case. Etherization may be said to be still on its trial, and the verdict not yet returned. We are much mistaken, however, if, from the evidence already obtained, we may not, with considerable certainty, infer what the verdict will be. The obvious, open, palpable, glorious good of etherization, is, to deliver the wretched victims of surgical disease from the additional torture of pain, while seeking the goal of health through the portals of chirurgery. The evils that have been said to accompany or follow this good have, however, been regarded by some eminent surgeons of so serious a character, as to cause them not only to reject etherization in their operations, but to denounce it publicly as a means that will be scouted from the field of practice in less than a twelvemonth! We confess that we have been surprised to hear this opinion; as we have not been able to discover in any quarter (and we have sought it in all) any rational grounds to authorize or justify it. Of the hundreds and thousands—we might almost say of the hundreds of thousands—who have taken ether to insensibility, either out of curiosity and for experiment, or for the mitigation or abolition of chirurgical pain, in America and in Europe, *we have been unable to discover, after the most extended inquiries, a single case in which the process certainly produced death, or left behind it consequences of serious importance that were certainly attributable to it.* In a small proportion of cases there have, no doubt, been some unpleasant results, such as temporary depression of the vital powers, headache, more or less considerable for some hours, and even for a day or two; hysterical excitement in women for a similar length of time; slight bronchial irritation; nausea and sickness; and some other slight affections, but the actual proportion of patients suffering even in this slight manner has been extremely small; indeed, *wonderfully* small, when we consider the indiscriminate manner in which the practice has been had recourse to, with bad ether, bad apparatus, bad manipulators, and, speaking generally, with the whole subject in the chaotic state of a new creation, the principles not understood, the practice merely tentative and experimental. That so very few, and such trifling ill effects have occurred, in such a state of things, is, to us, a most convincing proof of the general safety of the practice. So far from results of this uniformly innocent complexion being those which might have been anticipated from the rash and almost universal employment of a means avowedly capable of producing others of a very different kind, it is really surprising that actual death, not once or twice, but scores of times, has not been the consequence of the etherial epidemic. We have ourselves been constantly looking for such consequences, and we are still prepared to find them; but when they arrive, if they ever do arrive, we shall still have to consider well, before condemning the ether, whether the fatal event was a necessary consequence of its use or merely an accidental result from its abuse.

It is, however, maintained by some that these fatal results have already arrived; and, at the very moment in which we write, a coroner's jury (not the best judges by the way, of a physiological or pathological event) have decided that in one case, at least, death has been in consequence of etherization.

British and Foreign Medical Review, April, 1847, *p.* 551.

[The *effects* and *modus operandi of ether* are well explained by Dr. Buchanan, of Glasgow, as follows:]

The effects of alcoholic liquids are too well known to require minute description, but their more prominent effects are, in the first place, an exhilaration and excitement of mind, which gradually passes into a state of narcotism or stupefaction; and, in the second place, excitement and invigoration of the action of the heart, which seems to continue throughout; for the feebleness in the heart's motions, which comes on in deep intoxication, is probably the consequence of the narcotised state of the brain.

The effects of ether may be described in the very same words. This the identity of composition of the two substances might have led us to anticipate; for alcohol is just the hydrate of ether, or ether *plus* an atom of water—the two bodies not differing in composition more than oil of vitriol does from anhydrous sulphuric acid. The moment the dry acid comes into contact with water, it is converted into oil of vitriol, and ether, when kept long in contact with water, is converted into alcohol.

There is, however, a difference in the physical qualities of the two substances, which renders each of them only adapted to a certain mode of administration.

Alcohol is miscible in all proportions with water, and forms a palatable and too insinuating beverage. It is thus well adapted for administration by taking it into the stomach—while it is far less volatile than ether, and therefore is less adapted for inhalation.

Ether, on the other hand, is not miscible with water, unless the latter be in great excess (1 ether to 10 water). Hence it is not adapted to be administered by taking it into the stomach; for its hotness cannot be overcome by dilution, and it acts as a violent local irritant.

The suddenness of the effect produced depends, in the first place, on the volatility of the ether; and on its being thus brought, at once, into contact with a very extensive and highly absorbent surface—the mucous membrane of the lungs.

Another circumstance, which favours much the speedy development of the narcotism, is, that the blood, fully charged with the absorbed ether, is at once poured, undiluted and in a continuous stream, on the heart and brain. The ether is no sooner absorbed, than the blood, charged with it, passes on to the cavities of the left side of the heart; and immediately thereafter it circulates through the coronary vessels, and the carotid and vertebral arteries, and thus pervades the tissues of both sides of the heart, and every part of the brain. It is far otherwise with respect to substances applied to the surface of the stomach, and absorbed by the stomachic veins; for the blood in these veins is necessarily diluted, by intermingling with many currents larger than their own, before reaching the heart and brain. Suppose, to take an extreme illustration, that the blood were capable of absorbing as much ether as water can combine with, or one-tenth of its own weight; if, then, we suppose that the blood in the lungs were impregnated to this extent, it would be applied in that state to the heart and brain, whereas, if the blood in the stomachic veins were impregnated with the same quantity of ether, before reaching the liver it would have mingled with more than its own mass of pure blood from the splenic and mesenteric veins; the tenth would thus become a twentieth: and, on the blood leaving the liver, and joining the larger current of the inferior cava, the twentieth would become a fiftieth, or sixtieth. A further dilution would take place at the confluence with the superior cava. so that the blood, on reaching the heart and brain, instead of containing one-tenth part of absorbed ether, could not contain so much as one-hundredth. Whenever, therefore, the same quantity of ether, or of any other absorbable substance, is taken up from the lungs and from the stomach, it must, in the former case, be applied to the tissues of the heart and brain in a state of concentration at least ten times greater than in the latter; and will, therefore, act on these organs with more suddenness and energy.

I would explain, also, nearly in the same way, the evanescence of the effects produced, which is the most extraordinary part of the whole phenomena, and the most difficult to explain. During the inhalation, which is continued from five to seven minutes, blood, highly charged with ether, is applied to the heart and brain: while the blood circulating in the lower parts of the body contains a much smaller proportion of it. Now, on stopping the inhalation, the blood circulates in the heart and brain, speedily passes off by the veins, and is succeeded by the comparatively pure blood coming from the lower regions of the body; and so the narcotic symptoms disappear.

It is far otherwise when alcohol is absorbed from the stomach, for the whole mass of blood must be impregnated with it, before a highly charged blood can be applied to the heart and brain; and then, the effect continues for many hours till the alcohol has been thrown out of the system by the skin and lungs.

With respect to the ether -- it must not be supposed, that, on the subsidence of the narcotism, the ether disappears from the body; for it is merely weakened in its effects, by being diffused equably over the whole mass of blood; but, that it remains within the body is obvious from the smell of the breath for many hours afterwards, and from its frequently causing copious perspiration.

Medical Gazette, April 23, 1847, *p*. 715.

[Dr. Snow seems to have devoted considerable attention to the subject, and has written several interesting articles thereon. In one, he says:—]

In giving ether for surgical operations, he considered that the insensibility should be rapidly produced, and that previous excitement ought to be either imperceptible or very transitory. In addition to the state of the eye, the character of the respiration afforded a good criterion of the patient's state; when completely insensible, the respiration was deep, slow, and automatic, but should never be stertorous, he had never seen it so. In full four-fifths of the cases in which he had administered the ether, there was not the least flinch or groan during the cutting by the surgeon's knife. He considered cases of this kind the only truly successful ones, and believed that with proper care nearly every case might be of this nature. When the patient exhibited signs of pain, although he might have no knowledge of it afterwards, the ether was only partially successful. A large number of the so-called successful cases related were of this nature. Cries and struggles could not depend on the reflex function; the patient felt pain; he had sensation, with little or no consciousness, and consequently, no memory of pain, as memory was the continuance or repetition of consciousness or of knowledge, and not of simple sensation. With the apparatus on the table, the patient could breathe a good volume of vapour and air; he usually put it in water at about 70°, when the air and vapour would be equal in quantity, but he allowed the patient to begin by breathing merely air, and turned on the etherized air by degrees by means of a two-way tap, to prevent the irritation its sudden admission occasioned in some persons; and when the state of insensibility was fully formed, and an operation commenced, he turned the tap to dilute the vapour more or less, and thus to keep up the requisite state of insensibility, without increasing the effects of the ether beyond the necessary degree.

Medical Gazette, Feb. 26, 1847, *p*. 383.

[The Editor of the Medico-Chirurgical Review, says:—]

Limiting the investigation to grave cases, and remembering that the two great effects of etherization are the temporary extinction of pain and great relaxation of the muscular system, surely the field in which its powers may be fairly brought to the test is wide enough, as is sufficiently seen from the mere enumeration of certain affections in which it either has been or may be tried, viz., obstinate neuralgia, tic-douloureux, spasmodic diseases, tetanus, hydrophobia, strangulated hernia, dislocations, irritable conditions of the urethra or bladder preventive of sounding, &c. Among the extensions hitherto attempted, that in reference to *obstetrics* is certainly one of the most interesting, as calculated, if applicable to natural labour, to ensure a greater aggregate amount of exemption from suffering than any other. By many, the pains of labour are spoken slightingly of, and, certainly, in numerous cases neither their duration nor their severity call for interference: but in other cases, just as numerous, the suffering from them is truly dreadful, demanding the exercise of our ingenuity for its relief quite as urgently as do most surgical operations, especially as its prolongation is so much more considerable than that produced by these. We hold, however, that the conditions for the safe application of ether are not yet sufficiently ascertained to justify our resorting to it in natural labour, which is usually a process unattended with danger to life, or when such danger is produced this is for the most part induced by the occurrence of hæmorrhage, which, there is some reason to fear, etherization might even favour the continuance of. In the mean time, the results of the trials which Professors Simpson and Dubois have made of this substance in natural, difficult, and instrumental labour, are in the highest degree satisfactory, proving as they do, that, notwithstanding the utter annihilation of pain, the contractions of the uterus and of the abdominal parietes continue active and complete, so that the labours were just as, if not more, promptly terminated; and in one of his cases, in which the child was very suddenly expelled, M. Dubois noted the important fact, that a very unusual degree of relaxation of the perineum took place. The anticipation of utility from etherization in turning, in cases in which from delay the uterus contracts powerfully around the child and impedes the passage of the hand, seems scarcely well-founded; inasmuch as, during the insensibility induced by its operation, the action of that organ continues as vigorous as ever. In considering the propriety of adopting etherization in the practice of midwifery, we must take into account its effects upon the fœtus. As far as the trials of MM. Dubois and Simpson extend, these seem to have been in no wise injurious, although the former observed the fœtal cardiac pulsation temporarily mounted up from 125 to 160.

The discrepancy of opinions as to the *modus operandi* of this new remedy sufficiently proves that we have only approached the first stage of the investigation. Indeed, the phenomena induced are so various and uncertain that their classification is at present impossible. Much of this seemed to be due to the imperfection of the apparatus, the unskilfulness of its employment, or the impurity of the ether: but all these circumstances having been duly provided for, and administered by the same hands and by the same mode, excepting the production of the great end of the abolition of sensibility, the various physiological and psychological phenomena have manifested no kind of regularity in their development. One person shall become impassable as the subject on the dissecting-room table, another talk incoherently or mirthfully, reply to questions or obey directions, others utter exclamations of pain, which they afterwards retain no reminiscence of having felt, and others, again, declare they have suffered pain, but felt themselves powerless for its expression. Finally, in not a few, ungovernable violence or convulsive action, quite adverse to the performance of any delicate operation, takes place. With some, an utter oblivion is induced, while others, while undergoing all the apparent tortures of a prolonged dissection, are revelling in the realms of memory and the fields of the imagination. The medical profession, as if in contradiction of M. Magendie's calumnies, has been nowise backward in trying experiments upon its own members, competent to render an account of the phenomena observed: and, in Paris, exhibitions of this kind have been even carried to a ludicrous extent by some of the medical students. The sensations induced are almost universally described as pleasurable, and much resembling those resulting from the early stages of alcoholic intoxication; but the greatest variety of the effects upon self-consciousness, and in the degree in which the recognition of surrounding objects is retained, are reported. With many, the hilarity induced quite equals that produced by the inspiration of the nitrous oxide. M. Jobert and other observers have attempted to indicate three distinct stages in its effects, according to the prolongation of the etherization: 1, that of incoherence, agitation, or delirium, as the case may be; 2, acceleration of the pulse, with loss of sensibility and loss of voluntary power; and, 3, exhaustion and coldness of the surface. We wish the matter could be thus methodically laid down; but it is quite certain that any of these conditions may be induced in different individuals by very various doses of ether, while others again, are susceptible of only the first degree to appearance and yet enjoy an immunity from suffering during operations. Even the quickened condition of the pulse and respiration, and the stationary one of the pupil, are by no means invariable criteria of the effect having been produced, which, again, in other cases, may take place prior to their induction.

Various of the French Academicians have instituted series of experiments upon animals for the purpose of determining the mode and order in which the various portions of the cerebro-spinal system are influenced during inhalation. The following are some of the conclusions arrived at by the veteran vivisector, Baron Flourens.

"The action of ether upon the nervous centres follows a given course. It acts first on the cerebral lobes, disturbing the intellect; it acts, secondly, upon the cerebellum, deranging the equilibrium of the movements of the animal; thirdly, it acts upon the medulla spinalis, in which it extinguishes successively the sensory and motor principle; and, lastly, upon the medulla oblongata, where arrived, life becomes extinct.

"It is impossible to observe a single case of etherization without being struck with the resemblance the new phenomena bear to those of asphyxia, and experiments exhibit a real relation between asphyxia and etherization. But in ordinary *asphyxia* the nervous system loses its power under the influence of black blood, of blood deprived of oxygen: but in *etherization* it does so under the direct action of this singular agent. This is really all the difference; for in both there is the same loss of sensation and voluntary motion, and the same, at least temporary persistence of the respiratory movements—in one word, there is the same survival of the medulla oblongata over the spinalis. Etherization exhibits to us the entire mechanism of asphyxia—I mean the *successive death* of the various nervous centres. It isolates, just as mechanical experiments do, the intellectual powers, the co-ordination of the movements, sensibility, motility, life. The isolation of life, this point, this vital knot of the nervous system, forms the most striking fact of the new experiments. In an etherized animal one point alone survives, and while it does so, all the other parts retain at least a *latent life*, and may resume their active life: this point once dying all dies."

We fear much light is not shed upon the subject by these expements; for, certainly, no such exact order in the train of symptoms is observed in the human subject. We are yet, however, we repeat, in the very infancy of the investigation, and careful observation, well weighed deduction, and a not too hasty extension of inhalation for the relief of minor ailments, seem to be the indications for some time to come. That we have become possessed of a valuable instrument, not only as a therapeutical agent, but for the solution of more than one interesting physiological problem, we hold to be certain: and it much behoves us not to discredit it in the eyes of the public or the profession, by a too rash and careless employment. One benefit the discovery has conferred medical men must feel keenly, the overthrow of the only tangible pretension of mesmerism. It was thought by many, that the profession were remiss in not putting its boasted power of relieving pain to the test. Their joyful acceptance of a means unassociated with chicanery or humbug of any kind, amply proves that any backwardness in this particular did not arise from indifference or a want of duly estimating the importance of the subject, but from their scepticism and their unwillingness to mix themselves up with this wretched quackery.

Medico-Chirurgical Review, April, 1847, *p,* 534.

[We have also a variety of opinions as to the *mode of proceeding* in order to accomplish the object of the ether with the least risk. Mr. Robinson says:]

It is of the greatest importance that the ether employed for the purpose of inhalation should be perfectly pure, and of the least specific gravity, and of the most volatile kind. To secure this, the operator must either prepare it himself, or procure it of some chemist in whom he can place implicit confidence, and who must prepare it for this especial purpose; for I feel convinced that many of the failures that have occurred in its administration, in some measure may be attributed to the imperfect preparation of the fluid and the apparatus employed. I have myself obtained ether of various specific qualities from different chemists, and on one occasion, requiring an extra quantity for a series of experiments, and the gentleman supplying me being out of that of the quality he had generally supplied, sent some of a different quality which he had in his establishment, and which was administered in two cases. I found, however, that I could only produce partial unconsciousness, not insensibility to pain, and therefore deferred the operations, which were on the teeth. I procured what was then considered the strongest and purest ether, which was washed in lime water, and afterwards employed in the same cases with success.

I subsequently ascertained, however, that this ether was not of the first quality, but that there were three kinds, of which the one I was using was of the second.

Having been favoured by Dr. Holland (who had received the information in a private communication from Dr. Jackson) with a description of the manner in which the Americans prepare ether for this purpose, I immediately adopted their method, which I shall proceed to describe.

Having procured the strongest and purest rectified sulphuric ether, wash it well with water, to get rid of any acid that may remain, and which would cause considerable irritation, producing coughing, &c., during the inhalation.

The ether is then to be decanted from the water, drying it with chloride of calcium, to free it from any water that might otherwise remain from the washing.

Since adopting this process, I have found the vapour more uniformly consistent in its effects, producing little irritation, seldom sufficient to cause coughing, which may generally be altogether prevented by allowing the patient to take six or seven inspirations of the atmospheric air, in conjunction with the etherial vapour, at the commencement of the inhalation.

Inhaling.—At the commencement of the operation, I always allow the patient to inhale the vapour three or four times without closing the nostrils, carefully observing the pupil of the eye, which in about one minute will be found considerably dilated, but this will of course depend upon the susceptibility of the patient; after eight or ten more inspirations, the pupil will remain stationary for some few seconds: it will then turn towards the eyelids, which motion will, in most cases, be repeated several times. Continuing the inspirations, the pupil will be observed to turn under the upper eyelid, or remain in the centre of the eye; and in five or six inhalations beyond this, the operation may commence.

In operations, the performance of which requires any length of time, the vapour should be cut off by means of the stop-cock attached to the mouth-piece, which is so constructed, as when turned to admit a current of atmosphere to the mouth, as well as permitting the patient to breathe through his nose during seven or eight inspirations. Then again let on the vapour, and so on breathing that and the atmospheric air alternately at intervals of half a minute, until within three minutes of the end of the operation, when the pipe may, with perfect confidence as to the result, be removed from the mouth.

Lancet, Feb. 13, 1847, *p.* 168.

[The *apparatus* for the occasion varies according to the taste and ingenuity of the different operators. The one constructed according to Dr Boott and Mr. Robinson's instructions, by Mr. Hooper, seems a good one. It is stated that—]

Five requisites are necessary to complete success, and to avoid danger, viz:—

First.—The air taken into the lungs should be exclusively that which has passed through the vessel of ether, and thus saturated with its vapour.

Second.—The pad to be held over the mouth, to prevent any breathing of free atmosphere.

Third.—The expired air to escape freely.

Fourth.—The stop-cock may be used to regulate the volume of the vapour of the ether at the commencement of the inhalation, and also to cut off the access of vapour to the mouth in cases of protracted operations, when it may be desirable to give the patient (in the state of insensibility) atmospheric air; and again to open the stop-cock and let him breathe the vapour, thus lightening and deepening the degree of the sopor.

Fifth.—The nasal spring is for compressing the nostrils during exhalation, and is to be taken off when the stop-cock is closed for the breathing of atmospheric air, and again to be replaced when the vapour is inhaled.

Lancet, Jan. 16, 1847, *p.* 77.

[Mr. Tracy, of St. Bartholomew's hospital, recommends an apparatus made by Mr. Ferguson, instrument maker, which is both economical and convenient. It is something like a German pipe.]

The pipe is of glass, and mounted at the top with a brass cap and stop-cock, into which an elastic tube is screwed of 16 inches in length, which is surmounted by a double-valved mouth-piece of the description in ordinary use, a steel compress, padded, being used for securing the nostrils. It has been hinted to me that a valve made of some fine tissue, and secured to the top of the mouth-cap, would be an improvement on the compress in general use, as many patients dislike their noses being secured by such an instrument.

As much ether may be poured into the pipe as will fill the well and saturate the sponges. The mouth-piece should be placed between the patient's teeth, the stopper should be removed, and the stop-cock turned on, when the patient should be directed to inhale in a natural way. The operator will derive a great advantage in the use of this apparatus, as he will perceive the rising of the fluid in the tube as the air passes in at each inhalation,—a means which will greatly aid his judgment as to the probable effect of the vapour on the patient's system. I have performed more than twenty operations with this apparatus, making in the whole above ninety cases, and I can with safety affirm that this has answered better than any other I have used.

It was again tried in an operation (likely from its character, to be a protracted one) performed here by Mr. Skey, on Saturday the 16th. A boy, aged ten years, met with an accident five weeks since, by which he ruptured his urethra: it was followed by an abscess and almost entire closure of the canal. Mr. Skey, after some difficulty, succeeded in perfecting the communication of the separated portions of the tube. The operation occupied twenty-five minutes, during the whole of which time the patient was insensible to pain. I need scarcely observe that he inhaled the vapour at intervals during the whole time, and, before being taken out of the theatre, exclaimed, to the question---"Have you suffered pain?"---"No; he put something into my mouth which sent me to sleep."

Medical Gazette, Jan. 22, 1847, *p.* 167.

[At a meeting of the Westminster Medical Society, Dr. SNOW, placed on the table an apparatus, of which the following is a description:—]

It consisted of a round tin box, two inches deep, and four or five inches in diameter, with a tube of flexible white metal, half an inch in diameter, and about a foot and a half long, coiled round and soldered to it. There was an opening in the top of the vessel, at its centre, for putting in the ether, and afterwards attaching the flexible tube belonging to the mouth-piece. In the interior was a spiral plate of tin, soldered to the top, and reaching almost to touch the bottom. When used, the inhaler was to be put in hand-basin of water, mixed to a particular temperature, corresponding to the proportion of vapour that the operator might desire to give; and the caps being removed, and the mouth tube attached, when the patient began to inhale, the air would gain the desired temperature in passing through the metal-pipe; it would then come upon the surface of the ether, where it would have to wind round three or four times before entering the tube going to the mouth-piece, thus ensuring its full saturation, and preserving it at the desired temperature. There was no valve, or any other obstruction to the air, till it reached the mouth-piece, which was of the kind used in other inhalers, and contained the valves necessary to prevent the return of the expired air into the apparatus. Dr. Snow said that it been applied, in one case, at the temperature of seventy degrees, and had produced the effects of ether, very powerfully, in half a minute. In answer to a question, he said that ether, when sufficiently pure to be inhaled, would not act on tin or other metals.

Medical Gazette, Jan. 29, 1847, *p.* 201.

[Dr. Snow has since made use of an inhaler, which may be easily carried in the pocket,—described as follows:—]

By dispensing with the metal pipe that surrounds the larger apparatus, and by substituting flat for spherical valves, he had been able to get this to pack into a round leather case, such as is commonly used for holding cupping glasses. It was made of brass, tinned inside, and was three inches in diameter, and two and a half inches deep. The top unscrewed, and in the interior, and soldered to the top, there was a convoluted tin plate, as in the other inhaler. It was provided with an elastic tube, and with two valves, one balanced with a weight to admit air into the inhaler, and another just behind the mouth-piece, for the exit of the expired air. Instead of the two-way stop cock, there was a ferrule to admit external air into the tube, near the mouth-piece, when required. This inhaler was to be placed in a basin of water like the larger one. He did not intend it to supersede the latter, which was better adapted for exact observations; but practically it would answer as well, and had the advantage of great portability. It was made by Mr. Ferguson. The elastic tube and the valves were five-eighths of an inch in internal diameter. He considered it of great importance that all the passages through an inhaler should be at least as wide as the human trachea. Some writers had recommended three-eighths as sufficient. Now, the area of a tube of three-eighths of an inch was to one of five-eighths only as nine is to twenty-five. Many ether inhalers were very faulty, from the deficient size of tubes and apertures, and from offering obstructions by sponges, and if used even without ether would put a patient in danger from obstructed respiration. In saying this he did not mean to blame any one, for the subject of inhaling with the mouth and nostrils closed was perfectly new. He did not believe that ether would produce illness that would end fatally after two days; and if the fatal case or two related had really resulted from the inhalation, it must have been from deficiency of air, and not from the ether.

Medical Gazette, April 9, 1847, *p.* 646.

Dr. Snow says that the great effect of temperature over the relations of atmospheric air with the vapour of ether, had apparently been overlooked in the construction and application of the instruments hitherto used. This circumstance would explain in some measure the variety of the results, and account for some of the failures. The operators did not at present know the quantity of vapour they were exhibiting with the air; it would vary immensely according to the temperature of the apartment, as would be seen by some calculations he had made, and suspended in the room.

One hundred cubic inches of air, saturated with the vapour of ether, at a temperature of

44° would contain 27 cubic inches of vapour.
54° „ „ 34.3 „ „
64° „ „ 43.3 „ „
74° „ „ 53.6 „ „
84° „ „ 66.6 „ „

being doubled by a rise of only thirty degrees.

Medical Gazette, Jan. 22, 1847, *p.* 156.

[Dr. SMITH, of Cheltenham, suggests the use of a sponge simply, in lieu of the complicated apparatus of tubes and valves. Mr. Tibbs thinks this method decidedly the best, and thus describes it:]

The mode of using it is simply this:—Get a piece of sponge, quite clean and free from grit, large enough to cover the mouth and nostrils; immerse it in water about 50 degrees below boiling heat; squeeze it as dry as you can; pour the quantity of ether (from half an ounce to an ounce at a time will be sufficient) into a tumbler or glass basin; dip your sponge in, and it is then ready for use. Should the vapour be too powerful for the patient, hold the sponge at a little distance from the mouth, gradually advancing it as they can bear it. I have used it in 13 cases since Monday, and in one of them to a child not seven years old, with complete success. I feel perfectly satisfied from its simplicity and many advantages it cannot fail to do away with all other kinds of apparatus.

Medical Gazette, April 2, 1847, *p* 612.

[In another communication, Dr. Smith says:]

Experience has taught me that the most simple contrivance for the effectual and safe administration of ether by inhalation is to saturate a sponge with the following ethereal solution, and apply it to the mouth and nostrils, so that the patient may breathe easily through it. The ethereal solution which I recommend, and which from its less irritating and more sedative properties I have found to answer better than either sulphuric or chloric ether alone, is prepared by adding two drachms of ethereal oil (ol. ethereum) to six ounces of pure rectified sulphuric ether.

[Dr. Smith kept up the effects of the ether in one case for nearly three quarters of an hour, by the continued application of the sponge.]

Medical Gazette, Feb. 26, 1847, *p.* 395.

[We have not space to enumerate all the different cases in which this extraordinary agent has been used. The Journals at the commencement of the present year and end of the last, were full of these reports from almost every part of the world. We may mention, however, that amongst other cases it has been used in almost every kind of operation in which the cerebral functions were tolerably healthy, such as extraction of teeth, removal of tumours, amputations, dislocations, lithotomy, hernia, spasmodic stricture of the urethra, &c. In short, wherever it was required to relieve the temporary pain of an operation, or to produce relaxation of muscular structure. It has also been used with variable success in different neuralgic pains.]

[Dr. Simpson has employed the inhalation of ether in several cases of labour. Some of these were natural; in two, the long and short forceps respectively were employed; and in another, an account of which we extract, turning was performed. The patient, in this case, had a pelvis much contracted in its conjugate diameter: on her previous confinement she had been delivered by craniotomy, after a trial of the long forceps, and a protracted labour. On the present occasion, the pains commenced in the forenoon; and at five P.M., the os uteri was pretty well dilated, the liquor amnii not evacuated, and the head high, and difficult to touch. The pains made no alteration in the state of things for the next four hours. Professor Simpson then says,]

Assisted by Dr. Zeigler, Dr. Keith, and Mr. Figg, I shortly after nine o'clock made the patient inhale the ether vapour. As she afterwards informed us, she almost immediately came under the anodyne influence of the ether. But in consequence of doubts upon this point, its use was continued for nearly twenty minutes before I proceeded to turn the infant (as I had previously determined to do). A knee was easily seized, and the child's extremities and trunk readily drawn down; but extreme exertion was required in order to extract the head. At length it passed the contracted brim with the anterior part of its right parietal bone deeply indented by pressure against the projecting promontory of the sacrum, and the whole cranium flattened and compressed laterally. The infant gasped several times, but full respiration could not be established. The transverse or biparietal measurement of its head, at the site of the indentation, was, in its compressed state, not more than two and a half inches. Hence we judged the conjugate diameter of the pelvic brim not to exceed this. The infant was large, and rather above the usual size. It weighed eight pounds. On afterwards examining the head and removing the scalp, no fracture could be found at the seat of the indentation. The thin parietal bone had merely bent inwards.

On questioning the patient after her delivery, she declared that she was quite unconscious of pain during the whole period of the turning and extracting of the infant, or indeed from the first minute or two after she first commenced to breathe the ether. The inhalation was discontinued towards the latter part of the process, and her first recollections on awaking were "hearing," but not "feeling," the head of the infant "jerk" from her (to use her own expressions), and subsequently she became more roused by the noise caused by the preparation of a bath for the child. She quickly regained full consciousness, and talked with gratitude and wonderment of her delivery, and her insensibility to the pains of it. Next day I found her very well in all respects. I looked in upon her on the 24th (the fifth day after delivery), and was astonished to find her up and dressed, and she informed me that on the previous day she had walked out of her room to visit her mother. Mr. Figg informs me that her further convalescence has been uninterruptedly good and rapid.

[After relating the two forceps cases, in which the ether inhalations were also successfully resorted to, the Professor observes:]

As far as they go, the preceding cases point out one important result. In all of them, the uterine contractions continued as regular in their recurrence and duration after the state of etherization had been induced, as before the inhalation was begun. The emotion of fear has appeared to me to suspend, in one or two nervous patients, the recurrence of the first pains, after the apparatus was adjusted and its employment commenced; but this effect speedily passed off; and as yet I have seen no instance in which the pains were sensibly diminished in intensity or frequency after the ether had fairly begun to act: indeed, in some cases they have appeared to me to have become increased as the consciousness of the patient was diminished. This has more particularly occurred with one or two patients, who breathed ether, combined with tincture of ergot, or containing a solution of its oil. A woman was brought into the Maternity Hospital on the 28th February, after being in labour for 30 or 40 hours. It was her second child. Subsequently to her entering the hospital at seven P.M, scarcely any decided uterine contraction could be said to take place. The os uteri was well opened, but the head was still high in the pelvis; and when I saw her at four A.M. of the following morning, nine hours after her entrance into the hospital, little or no advance whatever had been made, and the case was becoming an anxious one. She was then made to inhale equal parts of sulphuric ether and tincture of ergot. In the course of a few minutes a series of extremely powerful uterine contractions supervened, and the child was born within a quarter of an hour of the commencement of inhalation. The mother subsequently declared that she recollected nothing at all of her delivery, except the removal of the after-birth. In this case, was the re-excitement of strong pains the result of the action of the sulphuric ether, or of the ergot, or of both? Or was it a simple but very strange coincidence? More facts than I yet possess are necessary to decide such a question; but I have seen some cases which lead me to believe that other therapeutic agents besides those I have named, may be readily introduced into the system by means of pulmonary inhalation.*

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* Dr. Richard Pearson, who, in 1795, was, I believe, the first person that recommended the inhalation of sulphuric ether as a therapeutic agent (see his Account of the Nature and Properties of different kinds of Airs, p. 24), suggested also the use of it impregnated with opium, squill, cicuta, &c.; and he speaks of the effect of "an emetic given in this manner." He employed the simple sulphuric ether vapour in some cases of phthisis, asthma, hooping cough, croup, and catarrh, recommending it to be inhaled, after being rectified and washed, from a cup, through an inverted funnel, or, with children, by "wetting

A more extensive and careful series of investigations than I have yet been able to institute, may perhaps show that in some constitutions, and under some circumstances or *degrees* of intensity, the process of etherization may possibly interfere with the uterine contractility, particularly in the earlier stages of the labour. At the same time, various analogies would lead us to expect that, as I have hitherto found, the action of the uterus would go on uninterruptedly, when the psychical influence of the mind and purely cerebral functions was suspended, as in the more complete states of etherization. At all events, if we may judge from the analogous experiments of Vollkmann, Bidder, Kölliker, and others, upon the simple contractions and rhythmic actions of the heart, intestines, &c., the motory nervous powers of the uterus belong to the ganglionic and to the spinal systems, and are not in any necessary dependence upon the brain or mind. Indeed, Ollivier and Nasse have published cases of perfect paraplegia, notwithstanding which the act of parturition in the human female proceeded regularly in its course, and without conscious pain. In the one case (Ollivier's), the cord was compressed and destroyed from the first to the fourth dorsal vertebra by a collection of acephalo cysts; and, in the other instance (Nasse's) complete paralysis had followed a fracture of the third and fourth cervical vertebræ. Of course such lesions necessarily prevented the brain exerting any influence upon the uterus, or its contractions. Long ago, in discussing this subject, Haller adduced the authority of Harvey, Smellie, Lamotte, &c., &c., to prove that uterine contractions and labour may go on with the mother, "ignara, stupida et sopita, et immobili, et apoplectica, et epileptica, et convulsionibus agitata, et ad summum debili." Dehoux mentions a fact still more in point. because in it the analogy with the operation of ether is still stronger, or indeed identical. "A woman," says he, "was brought to the Hotel Dieu at Amiens in a comatose state, in consequence of her taking spirituous liquors since the commencement of labour. She was delivered in the natural manner in this state; the sleep continued for some time after delivery. The woman, on awaking, much surprised at finding her delivery completed, congratulated herself on having made so happy a discovery, and declared she would make use of it if she had again occasion."*

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a handkerchief with it, and holding it near the nose and mouth." See Fort Simmons' Medical Facts and Observations, vol vii. p 96. In the 13th volume of the Dictionnaire des Sciences Medicales (1816) p. 385, Nysten has described a particular apparatus, like some of our modern forms, for the inhalation of sulphuric ether. See also vol. xvii. p. 134. Vaporizable substances, when introduced into the system in this manner, probably pass undigested and unchanged into the circulation, and " seem (observes Wagner) to make their way into the blood through the unbroken vascular membrane [of the bronchial cells] with the *same* certainty and ease as when they are injected *directly* into the veins." (Elements of Physiology, 1842, p. 443) Will this not explain both the rapidity and intensity of their action when thus used?

* " The celebrated case of the Countess de St. Géran is sufficiently remark-

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Students Room

In obstetric as in surgical practice, the degree of insensibility produced by etherization, and its accompanying phenomena, differ much in different instances. In some, a state of total apathy and insensibility seems to be produced; others move about and complain more or less loudly during the uterine contractions, though afterwards, when restored to their state of common consciousness, they have no recollection of any suffering whatever, or indeed, of any thing that had occurred during the inhalation and action of the ether; others again, remain quite aware and conscious of what is going on around them, and watch the recurrence of the uterine contractions, but feel indifferent to their effects, and not in any degree distressed by their presence; and in another class again, the attendant suffering is merely more or less diminished and obtunded, without being perfectly cancelled and annulled.

On the evening of the 13th inst., in two cases that rapidly followed each other, I witnessed, in the above respect, two very different conditions induced by the use of the ether. The patients (who each had borne several children previously) were both placed under the influence of it just as the os uteri became fully opened, and in neither did the full expulsion of the infant through the pelvic passages require above twelve or fifteen minutes. My first patient (the wife of a clergyman) subsequently stated, that she knew all that was said and done about her, was aware of the pains being present, but felt no distress from any of them till the supervention of the last strong contraction which drove the head out of the vulva, and the feeling then seemed to partake of the character of strong pressure, rather than of actual pain. Subsequently she told me, she could only look back with regret to the apparently unnecessary suffering she had endured in the birth of her former infants. The second patient, a lady of a timid temperament, and very apprehensive about the result of her present confinement, was induced with difficulty to inhale the ether vapour; but it speedily affected her, when once she did begin. In two or three minutes she pushed the apparatus from her mouth, talked excitedly to a female relative present, but was immediately induced to recommence the inhalation: and subsequently, according to her own statement, "wakened

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able in relation to the present subject. See full and long details of it in Gayot's Causes Celebres, tom. i. p. 142 to 266. After the Countess had been nine hours in labour with her first child, the midwife in attendance exhibited to her a potion *(breuvage)*, which rendered her insensible till the following morning. When the Countess then awoke to consciousness, she found herself bathed in blood, the abdominal tumour fallen, and all the signs of recent delivery present; but the child born during her state of insensibility had been removed, and its existence was even denied to her. It was years afterwards proved, to the satisfaction of the French law courts, that the Countess had been delivered of a male child during an induced lethargic condition, and that the infant had been surreptitiously conveyed away to a distance, and brought up as the son of a poor man. The child's claims were, after much litigation, fully acknowledged, he was restored to his parents, and ultimately succeeded to his father's title. What Nepenthean "breuvage" could possibly produce the alleged effect?

out of a dream, and unexpectedly found her child born." Like many others, she thought hours instead of minutes had elapsed, from the commencement of the inhalation to the period of the complete restoration of consciousness. Making apparently an effort of memory, she afterwards inquired if she had not once awakened out of her dreamy state, and spoken some nonsense to her friend.

A careful collection of cautious and accurate observations will no doubt be required, before the inhalation of sulphuric ether is adopted to any great extent in the practice of midwifery. It will be necessary to ascertain its precise effects, both upon the action of the uterus, and of the assistant abdominal muscles; its influence, if any, upon the child; whether it gives a tendency to hemorrhage or other complications; the contra-indications peculiar to its use; the most certain modes of exhibiting it; the length of time it may be employed, &c.* In no case have I observed any harm whatever to either mother or infant, follow upon its employment. And, on the other hand, I have the strongest assurance and conviction, that I have already seen no small amount of maternal suffering and agony saved by its application. The cases I have detailed sufficiently show its value and safety in cases of operative midwifery.

Monthly Journal of Med. Science, March 1847, *p.* 721.

[Some additional cases of natural labour, and one forceps case subsequently occurred to Professor Simpson.]

From these cases he inferred—1. That the inhalation of ether procured for the patient a more or less perfect immunity from the conscious pain and suffering attendant upon labour. 2. That it did not, however, diminish the strength or regularity of the contractions of the uterus. 3. That, on the other hand, it apparently, (more especially when combined with ergot), sometimes increased them in severity and number. 4. That the contraction of the uterus, after delivery, seemed perfect and healthy when it was administered. 5. That the reflex assistant contractions of the abdominal muscles, &c., were apparently more easily called into action by artificial irritation, and pressure on the vagina, &c., when the patient was in an etherized state. 6. That its employment might not only save the mother from mere pain in the last stage of labour, but might probably save her also, in some degree, from the occurrence and consequences of the *nervous shock* attendant upon delivery, and thereby reduce the danger and fatality of childbed; and, 7. Its exhibition did not seem injurious to the child.

Dr. Simpson mentioned a case in which he had employed the inhalation of laudanum. It was the lady's second pregnancy. She miscarried at the third month, during her first pregnancy. On the present occasion, severe sickness and vomiting came on about the same time after conception, and creating great fear of another miscarriage. The retching and vomiting continued, with slight intermission, for nearly two days, in despite of the use of ice, prussic acid, half-grain opium pills, &c.; and the patient was complaining much of weakness and want of sleep, when Dr. Simpson made her inhale some laudanum for a few minutes from a small ether inhaler, hot water being applied to promote its evaporation. The patient speedily began to complain of drowsiness, and was left in a state of sleep, from which she awakened in a few hours much refreshed. The irritability of the stomach afterwards disappeared; and in four or five days she was able to proceed on a journey of three or four hundred miles.

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* I have, during labour, kept patients under its influence for upwards of half an hour. In exhibiting it, the first, or exhilarating stage of its effects should be passed through as rapidly as possible, and the patient never allowed to be excited or irritated by the nurse or others. I have heard its use strenuously denounced on the ground that its effects, though good, are still of an intoxicating character, But on the same ground, the use of opium, &c. &c , in medicine, to relieve pain. and procure sleep, should be equally reprobated and discarded.

Monthly Journal of Medical Science, April, 1847, *p.* 794.

[At a meeting of the Westminster Medical Society, Dr. MURPHY related a case of labour in which he had administered ether while he performed "turning."]

The patient had been placed in a proper position for the operation previous to the inhalation. On passing the hand into the vagina, the woman was thrown into a momentary state of tetanic spasm. This was succeeded by a half-drunken, stupid state. He believed, from careful observation, that the uterus was not under the influence of the ether. Delivery was effected in five minutes The child was "asphyxiated," but soon recovered. Altogether, he believed the woman felt less pain than if the ether had not been used.

Medical Gazette, Feb. 26, 1847, *p.* 384.

[Dubois and Simpson have related their experience of the use of ether inhalations in labour, and given their opinions as to its applicability. Dr. TYLER SMITH argues the subject at greater length, and with more reference to physiological principles. Speaking of the effects of ether upon the nervous system, he says,—]

Sensation is for a time impaired or abolished. There can be no doubt that, as one of its effects, the pains of labour may be alleviated or abolished by this new application.

Volition may also be suspended; all the voluntary movements are in abeyance when the patient is fully under the influence of ether. In the partially etherized states, violent actions of the voluntary muscles takes place, but they are irregular, like the movements of ordinary intoxication.

Emotion is, in the fully etherized state, withdrawn, or the ordinary emotions are replaced by the disordered emotions of dreaming or delirium.

We must, therefore, inquire into the uses of *sensation, volition,* and *emotion,* to parturition, all of them being intimately associated together in natural labour.

In the expulsory stage of labour, after the dilatation of the os uteri, the efforts of volition are of some assistance to delivery. The efforts of expiration, and especially of the abdominal muscles, are increased, and the patient aids in fixing the thorax and the pelvis, by grasping firmly with the hands, and planting the feet against some convenient place. Sensation and emotion are, in a physiological sense, even of more importance than volition to parturition. In the last pains of labour, when the motor power is prodigious, and the patient is threatened with laceration, the sensation and emotion of pain comes in as a preservative. All the ordinary actions of labour at this period are reflex in their nature, and are, whatever their violence, uncontrollable by the will. But whenever the pain becomes too intense to be borne,—and pain is here a measure of danger,—the patient, chiefly under the influence of emotion, cries out, and her cry, by opening the glottis, takes away all expiratory pressure, and leaves the uterus acting alone. So, in the last stage of labour, upon the mingled agony and exertion of which obstetricians have exhausted their descriptive powers, pain and its attendant emotion play a benign and salutary part. It is now that laceration of the perinæum is most impending, and at this point not only is the glottis opened, but the sphincter ani and the sphincter vesicæ are suddenly dilated, so as to relieve the perinæum to a very great degree. It cannot but be considered as a singular provision of nature, that at the moment when the outlet of the vagina is threatened with the greatest danger, these two sphincters should suddenly relax before and behind it. We may even deduce from this fact a reason for the anatomical position of the vagina betwixt the rectum and the bladder. Thus, then, volition, and especially the sensation of pain, and its attendant emotion, are of considerable importance in natural parturition.

[So much of the *shock* attending labour and operations, as depends upon *pain*, may be alleviated by ether; but, as Dr. Smith remarks, the condition termed *shock* affects even more the spinal and ganglionic systems than the brain. Again, at one stage of the action of ether, the brain and spinal marrow are stimulated; convulsions have frequently been excited in the subjects of experiment; tetanic spasms and hysterical convulsions have been increased; and in one of Baron Dubois' cases, convulsions appeared to be impending: the fear of such a complication in labour ought to make us very guarded in the *employment* of any agent which can excite it. Dr. Smith thus sums up:]

What benefits can be conferred, what injuries hazarded, by the use of ether? Pain and emotion may be obliterated; all, or nearly all, of shock which belongs to pain and mental emotion may be averted; but, at the same time, volition, and the salutary influence exerted by pain and emotion on the motor actions of labour, are withdrawn. In successful cases—that is, when the brain only was affected—parturition, as a reflex function, would not be interfered with. There remains to the woman, in its full intensity, all that portion of *shock* which depends on the spinal marrow and the ganglionic system. There is added, in some cases, the increased tendency to puerperal convulsions, and the collapse described in the cases of Messrs. Nunn and Robbs as the effects of the ether itself, and which has also occurred in many unrecorded cases. The dangers incurred by the use of ether in midwifery would be that of convulsion, and of the meeting of the physical shock of parturition with the shock or collapse produced by the ether itself. Whenever this complication occurred, there would be considerable danger. Briefiy, I may repeat, there is, on the one hand, the absence of pain and of painful emotions, with their attendant evils; on the other. there is the physical shock unaverted, the tendency to convulsion, and the possibility of dangerous collapse---a possibility which, in some surgical cases, has passed into fatal certainty.

I know it is ungracious to take the part of an alarmist on such a question; but many fatal cases have now occurred after operations in which etherization has been practised. The patient who underwent the Cæsarian operation died; another patient, on whom extirpation of the eyeball was performed, sank; a clergyman, whose leg was amputated, never rallied after the operation; two of the women delivered while under the influence of ether, by the Baron Dubois, subsequently died; and fatal collapse occurred in the case of a woman from whose thigh a tumour was removed. Probably other fatal cases have occurred, of which we have no information. It would be difficult to say in how many of these instances the ether contributed to the fatal results: in some, death would no doubt have taken place under any circumstances; but in others, it may be considered well nigh certain that its use was the chief, if not the sole, cause ofdeath.

The morbid phenomena fairly attributable to ether, observed in cases which have recovered, have been---nausea, sickness, stertorous breathing, pulmonary and cerebral congestion, convulsions, and protracted failure of the heart's action. Now, the bare possibility of producing symptoms such as these by a remedial agent, however valuable, renders it imperative that we should be able to distinguish the cases in which the more serious of them are likely to occur, otherwise the agent itself must inevitably fall into disrepute. As is well known, digitalis may produce failure of the heart; opium, congestion of the brain; and hydrocyanic acid, convulsions; and consequently, caution is always observed in the administration of these still valuable remedies; but after etherization, we may have effects which resemble either undue narcotization, an over-dose of hydrocyanic acid, or the cumulative results of digitalis; so that it behoves us to be triply careful respecting its indications and its exhibition. In two fatal cases, a fluid state of the blood has been found after death.

As yet very little has been done towards indicating the proper cases for resorting to ether, and those in which it should be avoided. There has been a general rush towards the operating room, such as the world has never before witnessed. Great numbers of cases were successful on its first introduction; and this gave an *éclat* to the subject, and induced a confident state of mind in patients, which has doubtless been an element in the successful results; but now that fatal cases have occurred, all that was mere prestige must fall to the ground; and unless the proper cases for etherization can be distinguished with something approaching to certainty, patients upon whom it may be used will go under the knife influenced by previous dread rather than confidence; and so an item of evil, not properly belonging to etherization itself, will come into play. Such is the constitution of the human mind, that a few fatal cases, even by the side of a great number of successful ones, will be sufficient to transmute hope into fear, confidence into timidity and mistrust. Probably the fatal cases which have become known have already produced this effect, and it is believed that many of our most eminent surgeons are declining the use of ether as much as possible. For the sake of etherization itself, then, something like a pause is required, otherwise it is to be feared that the old empire of pain will return, and if so, it will seem for the future doubly difficult of endurance, because of the hopeful promise that, in surgical operations at least, it was conquered for ever.

Lancet, March 27, 1847, *p*. 321.

[The following are the conclusions arrived at, upon this subject, by the Baron Dubois:—]

1st. That the inhalation of ether has the power of preventing pain during obstetric operations.

2nd. That it may also momentarily suspend the natural pains of labour.

3rd. That the state of ebriety induced by the inhalation of ether does not suspend uterine contraction when the latter is decidedly set in and takes place at short intervals; and that it does not impede the synergetic action of the abdominal muscles.

4th. That the state of ebriety appears to lessen the natural resistance which the perineal muscles oppose to the expulsion of the head.

5th. That the inhalation of ether has not appeared to exert any bad influence over the life or health of the child.

Now, after hearing the foregoing conclusions, it may appear natural to suppose that the inhalation of ether being a process to which so many advantages are inherent, it might hence be considered as a precious expedient, and be frequently resorted to by the obstetric art Such, however, is not my opinion. The very proposal of such a thing, having no other ground but the very few facts I have communicated to the Academy, would not only appear very bold, but should be considered as extremely imprudent. In beginning this communication I related the apprehension under which I laboured at first. Well, the cases I have brought before the Academy may have lessened my fears, but have not yet altogether erased them from my mind.

You will remember that one of the women who inhaled ether went into a state bordering on that we design under the name of epileptiform. Two other women have died. Now, although the morbid occurrences in the first case were but of a short duration—although the fatal result in the two other cases rose far more probably from the influence of the epidemic than from any other cause—the Academy must feel that, in a question of so serious a nature, the recollection of these facts must still leave on my mind impressions of doubt and timidity. Later, perhaps, these hesitations may disappear; but even then I shall not forbear thinking that the very nature of things will tend to render very uncommon the adhibition of ether in cases of midwifery. First of all, it is evident that inhalation of ether can never produce a painless labour from beginning to end; it is to be doubted whether insensibility could be made to last long enough for such a result; and it is more doubtful still whether such a thing could be tried without running positive danger, and without being liable to the charge of guilty temerity. Therefore, there only remains for employing ether but the last period of labour, as in the cases where I have used it; and even then, this last period where its adhibition has appeared the most effectual, is the one, according to all mothers, the least fatiguing, the least painful of the whole labour.

As to the use of ether during obstetric operations, I will only observe that these operations are often rendered necessary by unforeseen circumstances, and that when it thus happens, they are of a very urgent nature. It is not necessary to give further development to the proposition I lay down here, in order to show that in a great number of these cases inhalation of ether cannot be resorted to. As to the remaining cases, it may be asked whether they prove to be generally of such a painful nature as to justify the common use of a process, which even, in conditions unconnected with the puerperal state, is not free from disadvantages, and which, when used under these special conditions, seems to me still less free from the same charge. My profound feeling on the subject is, that inhalation of ether in midwifery should be restrained to a very limited number of cases, the nature of which ulterior experience will better allow us to determine.

Lancet, March 6, 1847, *p.* 246.

[Now that we have presented the bright side of this important question, let us examine some of the dark shadows of the picture. It is possible that when we are better acquainted with the kind of cases in which this agent may be safely used, that it may prove a valuable addition to operative surgery, and even in many medical cases; but at present we are strongly disposed to think that its value has been vastly over-rated. We know many eminent hospital surgeons who feel little disposed to rely upon it in future, and who assert that if they had occasion to submit their own persons to a surgical operation they should prefer the endurance of the pain to the risk of the ether. In short, surgeons are not yet masters of the subject. It requires further investigation, and the cases more minute classification.

At present, we find many objections attributable perhaps to our ignorance of its minute effects, and the cases exactly fitted for it. Some of these objections we find excellently worded by the learned editor of the Medical Gazette.

In the first place, it is impossible beforehand to fix the dose of vapour that will be required to produce given effects upon any patient. Then it is not always easy to ascertain when enough has been administered: we cannot rely on the state of the pupil, or the pulse,—perhaps the change in the breathing is a more certain sign.

Again, we cannot predicate the form which the intoxication may assume,—whether that of coma, or excitement; the latter state would be an evil in the performance of any operation;—and in some,—hernia and lithotomy, for instance, a sudden movement of the patient might endanger his life.

Unconsciousness of suffering is not always desirable, for we sometimes wish to know if nervous cords are unnecessarily touched.

And besides all this, very serious consequences have already resulted from its use: an affection of the nervous system approaching apoplexy,—syncope,—dyspnœa,—and spitting of blood. Death also has followed its use in many instances; in some of which, as that of Mr. Nunn, in this country, and the two cases of M. Jobert, in France, the fatal issue has been attributed to the use of ether. It is probable that if the deaths were faithfully recorded, we should find that in many more instances, they were not from ordinary causes.]

Medical Gazette, March 12, 1847, *p.* 460.

[At a late meeting of the South London Medical Society, Dr. GULL read a paper on the injurious effects of the administration of ether; and ended with queries as to the desirability of removing pain during operations, and as to the safety of employing ether. Upon these subjects the following observations were made:—]

Mr. Benjamin Travers, jun., remarked, that the proximate as well as immediate effects should not be overlooked, as he believed the effects of ether were progressive, and that a man having been under its influence might die in the course of five days as well as of twenty-four hours. He had known a limb five days after death smell strongly of the ether, the stump having become gangrenous. He believed it to be a poisonous and dangerous remedy, attended with the greatest risk, and requiring the most profound caution in its use.

Mr. Bransby Cooper, in reference to Dr. Gull's question, "whether it was right in operations to alleviate or prevent pain, provided it could be done with perfect safety?" remarked, that pain was a premonitory condition, no doubt fitting parts the subject of lesions to reparatory action, and therefore he should feel averse to the prevention of it. In parts operated upon under the influence of ether, there was no muscular contraction, no retraction of the larger vessels, and the small ones continued bleeding; he alluded to a case of lithotomy under the influence of ether. The operating surgeon remarked that, with the exception of the flow of blood, it was like cutting through dead flesh; the parts fell, as it were, asunder, and the sensations were quite different on passing the finger into the bladder. Dr. Gull's paper had more than ever convinced him that it was a poison, and unless other experiments proved it harmless, he should give his decided opinion against its use.

Medical Gazette, April 30, 1847, *p.* 777.

[Referring to the danger of ether, Mr. COPEMAN relates a case which ought to be a warning to every surgeon. He says:]

The experimenter was a medical gentleman, who requested me to extract a tooth for him, provided he could make himself insensible to pain by means of ether. He breathed the vapour for several minutes without any apparent effect, but soon afterwards thrust the apparatus suddenly from him, exclaimed that he could bear it no longer, staggered about the room, and was assisted to a chair. His breathing became very difficult; his arms were stretched out; his fingers extended; and he was perfectly cataleptic. I would then have attempted to draw his tooth, but he showed some resistance, and his breathing was so exceedingly laboured, that it would have been almost impossible to perform that or any other operation. Each expiration was accompanied with a loud *Hah!* his eyelids were closed; his head was hot; pupils not altered; conjunctivæ much injected; pulse 120; and his appearance was altogether so distressing as to excite great alarm in the minds of the bystanders. I applied cold to the head; gave some brandy and water, for his hands were cold; and admitted fresh air freely into the room. Soon the cataleptic symptoms disappeared, and were succeeded by severe hysteria, with about the same degree of consciousness as is usual in that disease. With some difficulty I led him to the outer door, when he exclaimed—"Cover my chest," "cold, cold, cold." He was then removed to the sofa, when he was seized with severe cramp in the legs, the difficult breathing still continuing. I gave more brandy and water; applied hot flannels to the feet, and cold water to the head; admitted fresh air freely, and watched the progress of the case with no little anxiety; for these distressing symptoms continued for *more than an hour*, during which time I had to contend against the most fearful apprehensions of the mother, as well as to administer relief to a near relative who had voluntarily taken a poison, the effects of which I had not before witnessed, and the probable result of which I could not determine. At last a few deep inspirations ushered in a state of semi-consciousness, the patient raised himself to a sitting posture, and looked about him with a vacant stare, the conjunctivæ being very red and suffused. He attempted to rise, but tottered like a drunken man, and suffered a degree of exhaustion and giddiness which lasted until he was taken to bed. He slept well, but next morning complained still of languor. I should mention, that while he was lying on the sofa, I applied strong ammonia to his nose, without its producing any visible effect, and he afterwards had no recollection of the circumstance.

The impression on my own mind was, that I would on no account willingly produce a similar train of symptoms; and that, if such were to be the *frequent* effects of the ether, there would be few who would wish to exchange for them the pain of a surgical operation.

Provincial Medical and Surgical Journal, Feb. 10, 1847, *p* 80.

[In the case of lithotomy related by Mr. NUNN, of Colchester, the ether was evidently fatal.

The patient inhaled ether for seven or eight minutes before the operation, and at intervals while it was going on. The only difficulty in the operation, was a little delay in grasping the stone, owing to a relaxed state of the bladder. Mr. Nunn says,—]

The patient was placed fully under its influence, and the breathing first became heavy, and ultimately stertorous. He recovered, however, from its effects after a short time, and continued in a quiet passive state, but without decided reaction, for twenty-four hours. At this period he had a chill, which lasted for nearly twenty minutes. Mr. Taylor (the house-surgeon) immediately gave him two ounces of brandy, with an equal quantity of water, after which the patient remained in a dosing state till eight o'clock P.M., when the house-surgeon considered it necessary to send for me, as a state of complete prostration or collapse had ensued. I ordered small quantities of brandy and water (equal parts) with arrow-root, at intervals, wrapped him in hot blankets, placed hot bottles in the bed, &c. This treatment was kept up till nine o'clock the following morning, when ammonia was given alternately with the before-mentioned stimulus. The patient seemed incoherent from eight o'clock P.M. of Saturday till nine A.M. of the following day, when symptoms of slight reaction appeared. At a consultation of the medical staff, which was held at the time, it was determined that the same treatment should be continued (modified according to circumstances), and that, in addition, a stimulating injection should be administered. (The effects of the injection were to increase slightly the frequency of the heart's pulsation, but without exciting his nervous energies). From this time he gradually sank, and died at five o'clock, P.M., being sensible to the last.

I should here mention that the small vessels which are necessarily divided in making the first incision shewed much inclination to bleed, owing, I imagine, to their want of contractile power. I therefore, to prevent any unnecessary hæmorrhage, secured them immediately after the patient was put to bed, so that he did not lose much blood.

Post-mortem (sixty-seven hours after death). Membranous congestion of the brain, but no effusion; brain firm; lungs permeable throughout, anteriorly exsanguineous, posteriorly engorged; heart flaccid, of a natural size, and nearly empty; the left kidney pale;

the right slightly congested. The bladder and the adjoining parts presented the usual aspect after an operation.

I would mention that the blood throughout the whole vascular system was in a perfectly fluid state.

Medical Gazette, March 5, 1847, *p*. 414.

[Mr. SYME's opinion of its effects is not favourable. He says:—]

Since the last discussion held upon this subject, his unfavourable opinion, respecting the effects of ether inhalation, had increased, In addition to the injurious effects then spoken of, he had found. that in most cases, nausea, and very uncomfortable feelings were induced by it. In the surgical department of the Royal Infirmary, the nurses, who had resided there many years, and possessed considerable experience, were opposed to ether, from the restlessness and unpleasant effects it produced on the patients. He did not consider the fatal results hitherto said to have been derived from its application, to have much weight, as an objection, on account of the difficulty of ascertaining how far this depended on the inhalation.

Monthly Journal of Medical Science, April, 1847, *p*. 790.

[In a discussion at the Medical Society of London,—]

Mr. HIRD briefly alluded to the case of a young woman who, having inhaled ether for the purpose of submitting to the extraction of a tooth, was seized with syncope, in which she remained for a length of time, and for ten days afterwards suffered from its effects: this patient laboured under disease of the heart. In another case a gentleman was submitted to the action of the ether with the same view as in the former case. Soon after, his face became flushed, his lips purple, his temporal arteries enlarged, and there was altogether so much excitement, that his attendant was alarmed. The tooth, however, was extracted, but convulsions supervened, attended by slight stertorous breathing, and other symptoms of an alarming character. He gradually recovered, but suffered from the effects of the agent for some time after.

Dr. Waller related the case of a man in whom the ether produced such violent coughing, spitting, contracted pupil, rapid pulse, and incipient convulsions, that it was necessary to desist from the inhalation.

Medical Gazette, Feb. 26, 1847, *p*. 383.

[A patient of Mr. RICHARDSON's, of Brighton, a female servant eighteen years old, stout and florid, was etherized at her own request in order to have a tooth extracted; she had enlarged tonsils, which did, not however, obstruct respiration, but no disease of the lungs or heart. Mr. Richardson says:—]

She took the ether freely, having heard of the benefit others derived from it. After inhaling one minute, the tube was removed from the mouth. The muscles being contracted, and the mouth firmly shut, there was a difficulty in opening it. As it took a little time to adjust the key, sensation returned and she felt the pain of the extraction in an unmitigated degree. After the operation she bent her body backwards, and sank out of the chair: she gradually got the better, however, of the effects of the ether, and began to cry, and consciousness returned, but in a short time she again lapsed into a state of unconsciousness, with convulsive movements of the muscles, but she again got better, and attempted to walk, but could not; the convulsions returned. There were spasmodic movements of the muscles of the left side of the face, the angle of the mouth was drawn upwards, the head was hot, the cheeks flushed, the vessels of the conjunctiva injected, the pupils dilated, there were convulsive movements of the limbs, opisthotonos, and intense pain of the head. I endeavoured to refrigerate the head by means of towels soaked in cold water, which somewhat relieved the symptoms. I proposed to bleed her, but she strongly objected, as she had come against her mother's wish, and she was afraid of her censure. This state of things continued about half an hour; the refrigeration afforded but partial relief, the convulsions became stronger, the spasmodic twitchings of the muscles of the face more frequent and more violent, the pupil more and more dilated, the pulse full, hard, and bounding. There was no stertor of the breathing, nor was the countenance livid; on the contrary, the cheeks resembled two pieces of scarlet velvet: the breathing was not hurried.

I now found that bleeding was indispensable, and she consented; I therefore opened a vein. The blood did not flow very freely, but I took a full bleeding (eighteen ounces) from the arm, with marked relief to the symptoms. The convulsions ceased; convulsions which only returned at intervals previously, now became established. At the end of the bleeding the pupil contracted on exposure to light; still there was spasmodic twitchings of the muscles of the left side of the face. I directed the cold cloths to the head, to be continued when the muscular twitchings went off, and she began laughing. She then sat up, and arranged her hair, which had become dishevelled during her struggles. She declared that she was quite free from head-ache, and her head felt quite well, except a little confusion. She got up and walked home, a distance of about two hundred yards.

Having entertained a very favourable opinion of the inhalation of ether from the many successive instances I had witnessed, I must say this and other cases have entirely altered my opinion, and very reluctantly am I induced to look upon the remedy as unsafe. It will, I think, be admitted that in this case it produced congestion of the brain; and I must confess that my opinion upon seeing the convulsions was, that had they not been promptly relieved by bleeding they would speedily have terminated in effusion, and I certainly should fear lest in a similar case the symptoms would become uncontrollable. I believe that upon inspiring the vapour of ether a small portion enters the circulation, which being conveyed to the brain, causes congestion of that organ. I think the nerves of motion convey the nervous influence from the brain, and that the nerves of sensation return it to the brain; the brain being compressed, the nervous influence is not returned to it: hence there is an accumulation in the nerves of motion, and spasms are produced. Whether this theory be correct or not, I think that it is pretty clear that ethereal inhalation does produce congestion of the brain, and this congestion will be the most formidable obstacle, I believe, to the exhibition of ether. The use of the vapour would be inadmissible where there is a tendency to apoplexy, to epilepsy, or to convulsions in children, and also in plethoric individuals. When we consider that epilepsy once happening is liable to continual recurrence, we cannot too cautiously avoid exciting so formidable a disease.

Medical Gazette, April 2, 1847, *p.* 613.

[Mr. Robbs, of Grantham, relates a case in which death followed the use of the ether, but we do not see clear proof that this was the cause of the fatal result. The patient was a woman, aged 21, who had had a painful tumour on the back part of the thigh for twelve months, and as it did not yield to leeching and alteratives, an operation was proposed, and the patient requested the employment of ether. The operation was performed by Mr. Robbs, in the presence of three other surgeons, and consisted in the extirpation of the tumour, which was effected without the division of any large vessels. It occupies 25 or 30 minutes, and during the whole of the time the patient suffered severe pain, and struggled violently, notwithstanding that ether vapour was administered both before and during the operation. She died in about 40 hours.]

I had previously formed an idea, from what I had observed, that an over and dangerous dose of the vapour would be made visible by stupor, insensibility, unconsciousness, stertorous breathing, and general congestion, producing apoplexy. I was quite unprepared for that perfect state of paralysis of the brain and nervous system which it appears in this case to have induced. From what I had read of its effects, I concluded they were transitory, and if the danger was not immediate, there would be nothing afterwards to fear. It is true the opinion I first formed of its use was unfavourable, as I could not understand that anything would produce a cessation of the vital functions without danger to life; but, after having used it in several minor cases, I found that a partial suspension of the functions of the brain and nervous system was produced without much inconvenience, and that this effect soon passed off.

It will be observed, from the history of the case I have related, that the natural functions of the body, that is to say, the secerning organs, ceased their functions altogether. On the evening visit, on the day after the operation, there was an attempt at re-action, which was made apparent from the slight moisture on the edges of the tongue, hands, and forehead, with a slight increase in the power of the pulse. However, these symptoms were of very short duration, when the patient rapidly sank, being sensible to the last.

The use of this new therapeutic remedy may not be altogether without its benefits, but so far as I am concerned, I will not willingly use it again, and, if in consultation, I will do all I can to dissuade any one else.

Medical Gazette, April 2, 1847, *p.* 585.

[There is no doubt that there have been numerous other cases of a very unpleasant, if not of a positively dangerous character, from the use of this remedy, which have never met the public eye.

After careful observation, therefore, we cannot but think that the favourable impression on the minds of the profession and of the public has been produced, to say the least, prematurely, and without sufficient evidence and proper discrimination of the cases and constitutions subjected to its influence. And we will further state that, it is the impression among many experienced men, that in a very short time, it will be but seldom used, if it do not fall completely into disrepute.]

A SYNOPSIS,

CONTAINING

A SHORT ABSTRACT OF THE MOST PRACTICAL ARTICLES IN THE FOREGOING PAGES OF THIS VOLUME; AND SHOWING, AT A GLANCE, THE MOST IMPORTANT INDICATIONS OF TREATMENT BY DIFFERENT WRITERS, PUBLISHED WITHIN THE LAST HALF-YEAR. (ARRANGED ALPHABETICALLY.)

DISEASES AFFECTING THE SYSTEM GENERALLY.

Fever.—*Typhoid.*—Strip the patient, wrap him in a cold wet sheet, and cover with a blanket: in ten or fifteen minutes take these off, and wrap him in another blanket thoroughly warmed,—and put him to bed. He will then begin to perspire,—fall asleep, and awake refreshed, and sometimes well. (Mr. Stallard, p. 13.)

Instead of using cold water, use tepid or *warm*, especially in the diseases of children. Envelope the body in a flannel petticoat, wrung out of warm water: over this put two or three dry flannels, or oil silk, or both, keeping the oil silk external. In half an hour, or an hour, the skin will be in a profuse perspiration. Next rub the surface rapidly with a dry flannel, and wrap up in warm clothing. (Mr. Braithwaite, p. 15.)

Intermittent.—It is the sedative influence of quinine which cures an intermittent,—therefore give a single decided dose, grs. xv.—xx., eighteen hours before its operation is desired:—this will probably suffice for a pure intermittent. In a more congestive form of fever give 30 to 50 grs. When periodicity exists in a disease, give quinine, regardless of any existing inflammation. (Dr. Holmes, p. 8.)

Gout.—Accompanied by hepatic engorgement, give colchici vin. vel tinct. gtt. x. ad lx, magnes. sulph. ʒ ij.—ʒ vj., pot. nitr. gr. ij.—gr. vj. every three to six hours, till purgation, &c. are produced.

To worn-out or rheumatic subjects, give with the colchicum, stimulant purgatives; e. g., tincture or extract of rhubarb, aloes, or senna.

In the paroxysm, give a pill with equal parts of the extracts of colchicum and colocynth, and a fourth of the quantity of morph. hydrochlor. every hour or two, till it operates.

Colchicum will relieve the anomalous neuralgic pains occurring in persons of gouty diathesis. (Dr. Dick, p. 130.)

When there is much plethora, fever, and loaded bowels, and tumultuous action of the heart, give veratria. Veratriæ gr. j.; pulv. acaciæ, ℈ijss.; syrup, q. s. (ft. pil. xij.?) Dose may be three daily. (Dr. Dick, p. 120.)

Try pyro-acetic spirit (naphtha). (Dr. Hastings, p. 26.)

LUMBAGO.—Make about a hundred touches with the firing iron, down the spine and about the loins. (Dr. Mc.Cormack, p. 78.)

MELŒNA.—*In Fever.*—Give frequently a wineglassful of infusion of senna and matico, (utrq. ʒiss, ad aq. Oj. (Dr. Watmough, p. 128.)

RHEUMATISM.—*Acute.*—Unload the bowels by a dose of calomel followed by a saline purgative with colchicum: the latter acts by the gallate of veratria it contains, as a powerful purgative, and cannot be called specific. Afterwards subdue the inflammatory action by tartar emetic:—give farinaceous preparations in preference to broths, even when the acme of the disease is passed. (Dr. Basham, p. 23.)

Give quinine, beginning with doses of 1½ grammes for an adult, and ·75 gramme for a child: sometimes preceding its use by a bleeding. If there is no amendment on the third or fourth day, some other treatment must be adopted. (M. Briquet, p. 25.)

Depends on a specific morbid condition of the blood, tending to excite inflammation in the fibrous tissues: treat it by lessening the amount of the circulating fluid, and altering its constitution, and with this view bleed moderately, and give calomel and opium. If, in a case which seemed not to require bleeding, you have given mercury for some days without benefit, the abstraction of blood will be of great service. (Dr. Begbie, p. 69.)

Give elaterium.—(Dr. Dick, p. 121.)

Try pyro-acetic spirit (naphtha). (Dr. Hastings.)

Chronic.—Employ naphtha for a lengthened period. (Dr. Hastings, p. 26.)

Give arsenic. (Dr. Begbie, p. 71.)

Thoracic; and Rheumatic Lumbago and Cephalalgia.—Apply belladonna endermically. Vide *Neuralgia.*

RICKETTS—Encourage plenty of pedestrian exercise in the open air: the more the limbs are used the better. The curvature of the limbs will disappear as the health improves, and more phosphate of lime is deposited in the bones. The only case in which instruments are allowable is when the flexure is confined to the upper part of the tibia, and is such that the foot cannot be placed on the ground. (Sir B. Brodie, p. 177.)

Scrofula.—The children of scrofulous mothers who cannot provide a healthy nurse should be fed with milk expressed through a bag of suet. For disease impending, insist on nutritive diet and warm clothing, and give tonics with alteratives, and attend to the secretions. Treat actually existing disease by iodine, by the influence of which the albuminous matter is excreted as urea. Give tr. iodin. co. P.L. gtt. xxv. ter die for adults, increasing the dose if it can be borne. In very cachectic subjects, give iodide of potassium (or bromide, which nauseates less), syr. ferri. iod., or cod-liver oil. The waters of Shotley and Shap are useful, more from the alkalies than the iodine they contain.

Scrofulous Sores.—Use bromine lotion: 8 or 12 minims of bromine to 8 oz. of water. (Dr. Glover, p. 15.)

In the scrofulous cachexy, the *derivants* of the old humoralists, as setons, issues, and perpetual blisters, are undoubtedly of advantage.

Enlarged Glands in the neck are to be treated with iodide of potassium, sometimes combined with chalybeates, and in the early stage, iodide of lead ointment. If they suppurate and leave the skin over them unhealthy with a thin discharge, pencil the skin with nitrate of silver two or three times a-week. (Dr. Laycock, p. 19.)

In strumous diseases generally, and especially enlarged cervical glands and tonsils, try a course of cod-liver oil: give it in an emulsion with syrup, mucilage, and orange-flower water. (Dr. Graves, *Dublin Journal*, May, p. 337.)

Scurvy.—*Land.*—Let the diet be varied, and consist partly of vegetables, which contain acids: rhubarb, cabbage, potatoes, sorrel, water cresses, nettle tops, lemons, oranges, &c. Give citric acid four grains every four hours: or give nitrate of potash. (Dr. Laycock, p. 21.)

NERVOUS SYSTEM.

Catalepsy.—Try electro-magnetism: applying the wires to one of the extremities. (Mr. Crowfoot, p. 66.)

Chorea.—Give sulphate of zinc gr. ss. thrice a day, and increase it by a grain daily: when complicated with heart disease, except the latter be the more acute affection, you need not alter the treatment. (Dr. Chambers, p. 71.)

Give sulphate of zinc in half-grain doses, in rose-water, several times a-day: the dose may gradually be increased to ten or fifteen grains in the day. In severe cases, give an opiate in the evening. (Dr. Graves, *Dublin Journal*, May, p. 331.)

Give arsenic: withdrawing it for a few days, when its physiological action on the system is observed. (Dr. Begbie, p. 70.)

Delirium Tremens—In nervous cases with no obvious complication, first unload the alimentary canal: then give a full dose of opium, gr. ij.—v., with camphor or other stimulant, according to circumstances. Follow this by one and a half, or two grains of opium every two hours, until the patient sleeps soundly. He will probably awake convalescent; if not, continue the opium. Allow stimulating drinks in small doses to those who have been accustomed to their use; and in all cases give animal food as soon as practicable.

When the delirium is not so purely nervous, but more inflammatory, the treatment must be modified. If there is much vascular excitement of the brain, manifested by hard pulse, head-ache, flushed face, intolerance of light, &c., conjoin bloodletting, blistering, mercury, and tartar-emetic with the opium. If the bowels are constipated and the tongue furred, rely upon purgatives and tartar-emetic. (Mr. Phillips, p. 48.)

Epilepsy.—*Secondary*, supervening upon the *cholera* of children. Be cautious in the use of bleeding and the administration of calomel, as these increase the tendency to nervous effusion which is usually present in this disease. The best plan, when the face is pale and the skin cool, is to give digitalis promptly. (Dr. Coley, p. 60.)

Give arsenic. (Dr. Begbie, p. 71.)

Hydrophobia.—Galvanism has been successful. (Mr. Donovan, *Dublin Journal*, May, p. 292.)

Hyperæsthesia.—*Of the Vagus.*—Insist on temperate habits: give alkalies with morphia, and employ counter-irritation. In women investigate the state of the uterus. (Dr. Laycock, p. 31.)

Hysteria.—Give opium, in large doses, commencing with gr. v. daily, and increasing to gr. x. or gr. xii.:—The appearance of an hypnotic effect is a sign that the disease, and the tolerance of opium induced by it, are on the decline, and the dose must then be lessened. (M. Gendrin, p. 65.)

Neuralgia.—*Facial.*—Give zinc. valerian. gr. ¾ ad gr. i. bis-terve in die, made into pills with mucilage or conserve, or in solution in distilled water. (Dr. Neligan, p. 54.)

Take atropine gr. v., lard ʒiij, otto of roses gtt. j.; make into an ointment; a piece the size of a pea to be applied three times a-day. (Dr. Brookes, p. 49.)

Let the vapour of ether be inhaled: it will cut short the paroxysm, though having no permanent influence over the disease. (Dr. Alluatt and Messrs. Sibson and Morgan, pp. 51–54.)

May depend upon ulceration of the os uteri: if so, cauterize the ulcer with nitrate of silver, or the acid nitrate of mercury: as the ulcer heals the facial affection will probably cease. (Dr. Mainwaring, p. 55.)

Give morphia endermically, dressing a blistered surface with gr. one-sixth ad gr. two-thirds at each dressing. (Dr. Gattere, p. 50.)

Take ext. belladon. one part; mucil. g. acac. thirty-five parts. Mix, and spread over a blistered surface: may be continued many days. (Lippich, p. 51.)

Hysterical.—Try valerianate of zinc. (Dr. Neligan, p. 54.)

In Gouty Subjects.—See *Gout.*

PARALYSIS.—*Of the Deltoid.*—Apply the firing iron over the muscle. (Dr. M'Cormack, p. 78.)

Facial.—Give quinine. (Dr. Durrant, p. 51.)

Hysteric.—Employ aloetic purgatives, generous diet, the shower-bath, and compulsory exercise: and occasionally use counter-irritation by tartar-emetic ointment to the scalp or spine. (Dr. Paget, p. 35.)

Paraplegia.—When ascarides are suspected, as in children, give sesquioxide of iron. (p. 58.)

Rhythmical Movements.—Encourage by a favourable prognosis; begin with an active dose of castor-oil, and give sulph. ferri gr. ij, pulv. rhei. gr. v. thrice a-day, half an hour before eating: employ leeches to the temples, shower bath, walking exercise, and animal food. (Dr. Paget, p. 34.)

SCIATICA.—Apply the firing iron over the loins and hip, and down the sciatic nerve to the knee. (Dr. M'Cormack, p. 78.)

Give morphia endermically. Vide *Neuralgia.* (Dr. Gattere, p. 50.)

Give bisulphuret of carbon, both externally and internally after the method of Wutzer. (Dr. Berg, p. 58.)

TETANUS.—*Traumatic*—Wrap the wound in a poultice, and give infusion of tobacco, (gr. xxx. to 8 oz. for half an hour) half an ounce every one, two, or three hours, carefully watching the effect. The strength of the infusion may be increased to 60 or 70 grains to the 8 oz.; and an enema given of gr. xii. to 30 oz.; add opium and purgatives as circumstances require, and afterwards give ammonia. (Mr. Pridie, p. 41.)

Tobacco succeeds better than anything else; give an enema with fol. tabac. ʒi. ad aquæ Oj. (or half the quantity, according to the severity of the symptoms) every day until the spasms permanently relax: conjoining with it opium, and purgative enemata, and treating epigastric tenderness by mustard poultices often applied. (Mr. Travers, p. 43.)

Try etherization. (M. Pertusio, p. 45.)

Ether will augment the spasm. (Dr. Ranking, p. 46.)

ORGANS OF CIRCULATION.

Aneurism.—Coagulate the contents of the sac.—1. By heat, (Sir E. Home.) 2. Galvano-puncture, (Dr. O'Shaughnessy and others.) 3. Galvano-puncture, with compression of the artery above and below the sac, in order that its contents may be retained while the current from a battery of moderate strength is transmitted through them. A coagulum of albumen will be formed which may plug the distal extremity of the sac: or inflammation and effusion of lymph may be excited. This mode of treatment is not advisable, (Dr. Bellingham.) 4. By injecting a small quantity of dilute acetic acid into the sac, by an Anel's syringe, compressing the artery at the same time, on either side of the sac, (Mr. Wardrop.) 5. By compression, by means of two or more instruments alternately relaxed, taking care that the pressure is never so great as to excite inflammation in the artery, or entirely to interrupt the circulation. (Dr. Bellingham, p. 208.)

Galvano-puncture is liable to produce fatal inflammation of the sac. (Ed. *Monthly Journal*, p. 227.)

Popliteal.—Tie the femoral artery. Do not use a blunt instrument to expose the artery, but dissect carefully with a knife and forceps, and without regard to speed; denude no more of the vessel than required; use a small silk ligature, and tie it very tightly, and promote union of the wound by the first intention. The vessel is easily found in the angle between the sartorius and adductor muscle. *The chief danger is in roughly detaching the vessel from its connexions.* (Professor Syme, p. 221.)

By Anastomosis.—Puncture with a cataract needle, and introduce a probe, coated with nitrate of silver; repeat this several times, and apply in the intervals, astringent lotions and pressure. Or perforate the tumour in one or two places with the actual cautery, repeating it at intervals of fourteen days; this is the safest and mildest plan. (Dr. Wilmot, p. 228.)

In aneurism by anastomosis, and other tumours which are to be removed by ligature, pass a double ligature under the tumour, by a curved needle, and cut the threads; then pass one end of the upper thread under the tumour, at right angles to the first, and let the needle carry back the corresponding end of the lower thread; tie the two knots, and the strangulation is complete. (Professor Fergusson, p. 232.)

Epistaxis.---Insufflate, through a quill, equal parts of alum and gum arabic. (M. Lecluyse, p. 128.)

Besides other treatment, use dry-cupping to the nape. (Dr. Graves, *Dublin Journal*, May, p. 330.)

Hemorrhage.—In hæmatemesis and hæmaturia, *gallic acid* is of the greatest advantage. Give ten grains three times a day. (Dr. Oldham.)

Give six or eight grains of *gallic acid* three times a day. (Dr. Garrod.)

Even in two grain doses, gallic acid sometimes produces distressing dryness of the tongue and fauces. (Mr. Headland, p. 90.)

From Wounds.—Apply Ruspini's Styptic, which consists of gallic acid, sulphate of zinc, opium, alcohol, and rose-water. (Mr. Hughes, p. 159.)

From Leech-Bites.—To arrest the bleeding, dry the wound quickly, then seize the skin around it, between the thumb and finger, and make compression for 5, 10, or 15 minutes. (Dr. Marshall, p. 234.)

Hæmatemesis.—Give acet. plumbi, gr. iss., opii, gr. ss. every hour or two. (Dr. Adams, p. 91.)

Heart.—*Hypertrophy of.*—Use repeated bleedings, general and local, and keep the patient still in bed for several months, allowing only sufficient nourishment to sustain life. This treatment, however, is only applicable to those who are robust and strong, as well as patient and courageous. (M. Rostan, p. 88.)

Simulated hypertrophy of the heart, is when the heart's impulse is increased, but the sounds are clear, and the extent of dulness not larger than natural. When this occurs in plethoric and sedentary young persons, employ depletion, abstinence, and active habits. In other cases the patient is thin, pale, dyspeptic, and nervous: here stomach, nerves, and blood being all at fault, long and varied treatment is required. Again it occurs in young persons where there is neither anæmia nor hyperæmia to indicate the source of disease. In these cases no particular treatment can be recommended, or is likely to do good: but the disease not unfrequently suddenly disappears. (Dr. Latham, p. 89.)

ORGANS OF RESPIRATION.

Asthma.—Administer ether-vapour: pour a few drachms on a handkerchief, and hold near the nostrils: the paroxysm will be arrested. (Dr. Willis, p. 106.)

Habitual.—In many cases use galvanism. (Mr. Donovan, *Dublin Journal*, May, p. 304.)

Asphyxia.—*From Drowning*—Employ *slow and gradual* inflation of the lungs, or what is better, enter a small fine needle between the eighth and ninth ribs, so as to touch the diaphragm: pass down it a current from a pile of 25 or 30 pairs of one-inch plates: interrupting the circuit *as soon as an inspiration* is made, to allow the ribs to make the expiration. (Mr. Donovan, *Dublin Journal*, May, p. 291.

Asphyxia Neonatorum.—Employ artificial inflation of the lungs, using a tracheal tube, and continue it until the *child cries loudly:* considerable force may be used without fear: there is more danger of doing too little than too much. (M. Depaul, p. 107.)

[This advice should be followed with extreme caution.—Ed.]

Bronchitis.—When there is teazing cough and little or no expectoration, give an opiate: but when the cough is occasioned by mucus in the tubes, opium will be injurious. (Dr. Laycock, p. 97.)

Chronic.—Give a pill three times, and subsequently twice a day, of the following formula: ℞. Pil. hydrarg. ℈ss., ant. tart. gr. j. ext. conii, ℈i. ft. pilul. viii. (Dr. T. Thompson, p. 98.)

Give pil. hydrarg. gr. ss. ad gr. j; ext. conii gr. j. ad gr. ij; and if there is tendency to dropsical effusion, add pil. scillæ co. gr. ij. vel iij. Use dry cupping. In old debilitated persons, give decoction of senega with ammonia. (Mr. Hird, p. 99.)

When there is scanty expectoration give tinc. lobel. infl. ♏xx. (Mr. Stedman, p. 100.)

Croup.—As the inflammation is nearly allied to that occurring in scrofulous constitutions, do not bleed generally; when, however, there is not much tendency to the formation of false membrane, and the disease affects the larynx, local bleeding may be of service. Begin the treatment by ant. tart. gr. ¼ ad gr. j. as an emetic: after vomiting, give calomel gr. iij, and repeat the dose if necessary, that it may act upon the bowels. Give ant. tart. gr. 1-12th ad. gr. ¼ every half hour or hour, till the inflammatory symptoms are checked; applying also a blister between the shoulders or on the chest, for an hour or two; and as a local application, a flannel bag half-filled with hot salt. Afterwards give liq. potassæ ♏ x or ♏ xv. every four hours; and at a later period still, decoction of senega, with ammonia, squill, and ipecacuanha. (Mr. Hird, p. 94.)

Empyema.—*Paracentesis Thoracis.*—If there is not much fluid—if it is situated low down, and is pointing, make a valvular opening with lancet or scalpel. Otherwise, use Cock's trocar, one-twelfth of an inch in diameter, and 2 inches long. Always explore previously, with Dr. Babington's small trocar. (Mr. Iliff, p. 242.)

Hæmoptysis.—Give acetate of lead, guarded by opium and acetic acid: in which form it may be given without fear. (Dr. T. Thompson, p. 90.)

Hooping-Cough.—Give alum at any period of disease, if the air-passages are moist, and the brain not congested. To an infant, give gr. ij. thrice a-day, with syr. rhœad. and water; and to older children, gr. iv. up to gr. x. or xii. (Dr. Davies, p. 105.)

Give tannin or nitrate of silver, or still better, belladonna. (Dr. Volz, p. 105.)

The inhalation of ether vapour may cut short the paroxysm. (Dr. Willis, p. 106.)

Lungs.—*Disease of, in Children.*—Emetics are very efficacious, and may be given safely to the youngest child, if ipecacuanha is used. Never give tartar emetic to a child under a year old; never give it to naturally delicate and scrofulous children; and never give continued doses. It is the sedative effect which is injurious, therefore the drug should only be employed in diseases which will bear this, as croup and pneumonia. (Dr. Beck, p. 132.)

Phthisis.—When febrile symptoms are absent, and there is emaciation, give cod-liver oil. It does not purge, but increases the appetite, the bulk of the body, and general vigour, and removes erratic pains. Iodide of potassium is increased in efficacy when given with the oil. (Mr. Everett, p. 103.)

Throat.—*Wounds of.*—If the patient will keep quiet and maintain a proper position of the head, and if other circumstances are favourable, attempt to close the wound, however large. Stitch it up, strap closely with adhesive plaster, apply a layer of lint and bandage, and approximate the head to the chest. Dress the wound daily, and attend to the general health. (Mr. Park, p. 239.)

Any attempt to close the wound is useless as well as injurious, on account of the swelling from infiltration, and the oozing of blood into the air-passages. If the wound is extensive, however, insert a suture at each end. (Ed. *Monthly Journal*, p. 240.)

When the patient cannot or will not swallow, administer enemata of milk or broth: *e. g.*, give two pints of broth, made from a pound of beef, in three enemata, daily. (Mr. Ormerod, p. 256.)

Tracheitis.—In conjunction with other measures, vesicate the throat by a roll of flannel dipped in hot water, and let warm *moist* air be unremittingly diffused through the apartment, even until convalescence is complete. (Dr. Durrant, p. 95.)

ORGANS OF DIGESTION.

Aphthæ.—Smear the parts frequently with this liniment:—White honey, thirty grammes: sulphuric acid, two grammes: mix. (Professor Lippich, p. 111.)

Gallic acid is a good local application. (Mr. Hughes, p. 159.)

CHOLERA.—Prophylactics: live regularly, avoid fatigue and exposure, use flannel clothing, and take quinine and tonics.

Treatment.—Encourage vomiting by warm diluents: keep the body enveloped in flannel, especially the abdomen and loins. Rub the epigastrium well with liq. lyttæ, and then apply a blister, which is the most important part of the treatment. Give effervescing draughts for the thirst. If the dyspnœa is urgent, bleed or apply leeches to the chest; and if it then continue to apply the liq. lyttæ and the blister. (Dr. Maxwell, p. 119.)

CLEFT PALATE.—*Staphyloraphy.*—Do not operate until puberty. Seat the patient with his face to the light, and stand on the right side of the patient, and sometimes behind him. First divide the levator palati by an incision half-an-inch long, a little above the free margin, on each side of the cleft. When all the fibres are divided, pare the edges of the fissure: after making the incisions, apply sponges wrung out of iced water. Put in three, four, or five stitches, with a needle set in a handle, and then tie them, proceeding from before backwards. Before tying the two knots furthest back, ascertain if the palato-pharyngeus drags the edges asunder; and, if requisite, divide it by an incision a quarter of an inch long, made in an outward direction in the posterior pillar of the fauces. If necessary, also divide the palato-glossus by a small horizontal wound in front of the tonsil, and midway between the tongue and palate. Lastly, fasten the stitches (of stout silk), by the "Byron tie." (Prof. Fergusson, p. 246.)

COLON.—*Loaded States of.*—Give a bolus of blue-pill, aloes, and myrrh, at night, and castor oil, with a turpentine enema in the morning: repeat these five or six times, every other day, giving at the same time vegetable bitters, as taraxacum, with aloes. (Dr. Dick, p. 120.)

COLIC.—*Bilious.*—Prohibit stimulating food, give warm diluents plentifully, and gentle oleaginous laxatives and enemata, with a little tincture of henbane or opium: if there is chilliness use the warm bath. Or, give infusion of chicory, taraxacum, or lettuce, with acetate of potash.

Spasmodic, or Flatulent.—Give aromatics and carminatives, by draught and enema; as valerian, assafœtida, musk, belladonna, camphor, and volatile oils: and use warm abdominal frictions.

Scybalous.—Avoid drastic purgatives; give castor and olive oils, taking care not to excite nausea; and use only enemata with aromatics.

Lead Colic.—Give alum, four or five drachms, in five ounces of demulcent julep; a table spoonful every hour. Kapeler.

Combine the alum with camphor, and capsicum, and sometimes opium; and give oily enemata. Dr. Copland. (Dr. Dick, p. 123.)

(Dr. Dick describes also the French treatment, for which see p. 124.)

Constipation.—It is important to attend to the *cæcum:* if there is accumulation there, give pil. hydrarg., aloes, ext. hyosciam. āā, gr. iij—gr. v. at night, and castor oil next morning: repeat on alternate nights, two or three times. Also give large oleaginous injections containing ℥ss. or ℥j. of turpentine, the patient lying on the right side and the disengagement of accumulation from the colon being assisted by *kneading* the right groin with the hand. (Dr. Dick, p. 122.)

With flatulence, and distended rectum, give turpentine by injection and draught. (Dr. Dick, p. 121.)

Diarrhœa.—If the tongue is furred, give ol. ricin. ℥ss., tr. opii ♏x—xv; or if the bowels have been well emptied, give calomel, gr. iv., opii, gr. j. and subsequently the castor oil. In slight cases give hydr. c cretâ, and pulv. ipec. co. āā gr. v. If the disease is protracted, use mist. cretæ c opio, conf. arom., and tinct. kino, vel catechu. (Dr. Turnbull, p. 115.)

In Young Children.—Give trisnitrate of bismuth. (M. Rayer, p. 120.)

In Phthisis —In the diarrhœa of phthisis, give acetate of lead with opium and acetic acid. (Dr. T. Thompson, p. 90.)

For diarrhœa occurring in the progress of phthisis and typhus, give trisnitrate of bismuth.

Dysentery.—*Acute.*—If there is tenderness of the abdomen, or if the other symptoms indicate inflammation of the large bowel, apply 12 to 24 leeches, and repeat them as often as necessary. Give calomel, gr. iij., opii gr. one third to a half, every four or six hours until the active symptoms are subdued, or the system is under the influence of mercury: if the calomel irritates, give hyd. c̄ cretâ and Dover's powder instead. Give mild aperients: ol ricin. ʒj.—ʒiij. especially if the stools are not fæculent.

Chronic.—Give astringents: opium, catechu, and ferri sulph.; but not to such an extent as to constipate. If there is great tenesmus, give a few ounces of black wash and a drachm of laudanum, *per ano:* and when the secretion of the lower bowel is purulent, inject a weak solution of sulphate of zinc. (Dr. Baly, p. 113.)

After clearing out the bowels with an infusion of rad. ipecac., give infusion of matico (℥j. ad aq. Oj.), both by the mouth and anus. (Dr. Hartle, p. 118.)

There is a new preparation of matico; dose one or two drachms. (See p. 119.)

Tropical.—Give a scruple dose of calomel at night, and a purgative in the morning.—Mr. Annesley.

Bleed; give a scruple of calomel with two grains of opium and the warm bath; and afterwards, calomel, gr. v., opii. gr. ss., every 3 or 4 hours, till it salivates. Then give copaiba mixture every 4 hours, and farinaceous diet.—Dr. Cheyne. (Dr. Turnbull, p. 116.)

Hernia.—*Strangulated.*—Lay the patient upon a hard mattress with no covering but his shirt; keep the room quite cool, and employ cold applications to the tumour. Give tartar emetic in such doses as to produce great nausea or vomiting, and then use the taxis gently for a few minutes and repeat it at intervals. If this treatment does not succeed in four or five hours, operation should be at once resorted to. (Dr. Greenhow, p. 253.)

Distinguish between true strangulation and inflammation, or pseudo-strangulation. If the taxis is not successful, place in a bath, give a tobacco injection, and put a cataplasm on the tumour; apply leeches if necessary. When inflammation declines, again have recourse to the taxis. (M. Malgaigne, *Med.-Chir. Review*, Jan., p. 261.)

Liver.—*Congestion of.*—Give bromine: ℞. Potass. bromid. gr. x., aq. cinnam. ℥iv.—vj. Dose, a dessert-spoonful twice or thrice a-day. Or ferri bromid. gr. xxxvi., conf. ros. q. s., ut ft. pil. 50. Capt. ij. nocte maneque. (Dr. Dick, p. 130.)

Melœna.—*Acute.*—Give gallic acid, grs. iv., every four hours, with tinct. opii. (Dr. Durrant, p. 128.)

Prolapsus Ani.—Employ Weiss's instrument—an ivory nipple upon a coil of wire of moderate power; this is fixed upon an understrap and attached to a belt.

Or, carefully return the bowel after the daily motion, and place upon the anus a pad formed of a piece of sponge, four inches by one and a-half, and half an inch thick, rolled up tightly into a coil; and immediately bring the nates together with a broad strip of plaster. (Dr. Hake, p. 255.)

Worms.—*Prevention and General Treatment.*—Nutritious food, avoiding ill-dressed vegetables and unripe fruit; exercise; country residence; the application of stimulant embrocations to the abdomen; and the exhibition of soda with bitter infusions or chalybeates.

Tænia.— To children, give the following: ℞. Sp. terebinth., mellis, mucilag., aa. ʒss., aquæ ℥ss. ft. ht. 6tis horis, s.; or give the sp. tereb. in milk. Also give calomel with scammony or castor oil every other day.

Ascarides.—A large enema of warm, bitter infusion—wormwood, chamomile, or sem. santon., given slowly through a large pipe, twice a-week; and on the intermediate days, a purgative. (Dr. Davies, p. 127.)

URINARY ORGANS.

Bright's Disease.—Is the manifestation of a constitutional affection which we must cure by hygienic means. The diet must be free from fat, and from those non-azotized substances which are easily converted into fat: as starch and sugar. Enjoin a removal to pure air, regular exercise, attention to the cleanliness and temperature of the skin; and give tonics and other chalybeates. The congestion of the kidney will be relieved by attention to the skin and bowels, but local bleeding may sometimes be cautiously employed. (Dr. Johnson, p. 140.)

Give ext. krameriæ ʒ ss. every day; employ vapour baths, and keep on low diet during any inflammatory stage. (M. Rayer, p. 148)

Calculus Vesicæ.—Seize the stone between a pair of metallic conductors insulated except where they touch the stone, and pass a galvanic current along them. (Mr. Donovan, p. 271.)

Diabetes.—Prohibit saccharine and farinaceous articles of food: give Dover's powder in moderate doses at bedtime, and ten grains of carbonate of ammonia, thrice a day; and use the vapour bath. Try cod-liver oil, especially at the onset of the disease. (Dr. Chambers, p. 153.)

In proportion to the quantity of feculent and saccharine matters eaten, is the amount of sugar excreted, and the quantity of water required for this excretion. Prohibit, therefore, all saccharine and starchy food, and supply the place of these as aliments of respiration, by alcoholic drinks, and fat meat. (M. Bouchardat, p. 151.)

Glucose, when in contact with alkalies, acquires great affinity for oxygen (as we find by its decomposing oxide of copper): by this means it is consumed in the blood, and converted into water and carbonic acid. Diabetes arises from a deficiency of alkali to effect this change: therefore gives alkalies freely; if this is done, amylaceous food may be allowed. (M. Mialhe, p. 156.)

Dropsy.—*Anasarcous.*—In young and robust subjects, give elaterium. A tincture of elaterine is the best: Elaterine gr. j. S. V. R. ʒ viij., acid nit. ♏ij. Dose thirty or forty drops. (Dr. Dick, p. 121.)

Fistula.—*Vesico-vaginal.*—Make a semicircular incision over the anterior part of the cervix uteri, where it is joined by the bladder, and, keeping the edge of the bistoury directed towards he cervix, dissect upwards so as to loosen the connexion of the posterior wall of the bladder. Then pare the edge of the fistula which have thus become approximated, and unite by suture. (M. Jobert, p. 280.)

Lithotomy.—The dangers attending the use of the knife are 1, hemorrhage, from the internal pudic, or the artery of the bulb: 2, wounding the rectum: 3, the knife slipping down between the rectum and bladder. We have to avoid the escape of the instrument from the groove of the staff, and to incise the prostate with safety, and just sufficiently to allow the introduction of the forefinger. The tissue of the prostate is of various degrees of resistance,—if some fibres are cut, the rest will yield: therefore get the knife made to cut upon the principle of the wedge. Use a straight narrow bistoury, squared for half an inch from the point; push it along the groove till the blunt part is in the bladder; then pressing the point against the staff, lateralize slightly, and slowly depress the wrist, so as to bring the heel of the knife to the lower angle of the external incision: withdraw the staff, and pass the finger along the knife into the bladder. (Sir P. Crampton, p. 262.)

In performing lithotomy on the male, it is not of much consequence to the patient's recovery, whether we cut or tear the prostate, until we arrive at the neck of the bladder. But a sensitive ring surrounds this part in both sexes; and to tear *this*, instead of cutting it, produces almost certain death. (Mr. Syme, p. 268.)

In Women.---Divide the membrane of the urethra directly upwards with the *bistourie cachè*, the blade projecting one-sixth of an inch; and expand with Weiss's dilator. (Sir B. Brodie.)

First use the screw dilator; then with a blunt-pointed knife notch the neck of the bladder towards each ramus of the pubes, and continue the dilatation. (Mr. Liston.)

Introduce a conical dilator concealing a blade cutting upon the *wedge* principle; when it will go no further, raise the blade for the eighth of an inch and press the dilator forward. (Sir P. Crampton, p. 266.)

HÆMATURIA.—*From Injury.*—After leeching, &c. give gallic acid gr. ijss. made into a pill with ext. gentian., every three hours. (Mr. Hughes, p. 159.)

STRICTURE OF URETHRA.—Pass a gum catheter as far as the stricture; secure it with tapes, and inject warm water from a syringe, with some force, compressing the penis to prevent its escape. (Mr. Goodman, p. 272.)

Insert a seton in perineo. (Mr. Dermott, p. 274.)

URINE.—*Alkaline.*—Wash the bladder out every day or two with warm water; the urine is often rendered alkaline by retention of a few drops in the bladder. But distinguish those cases in which the urine is *secreted* alkaline. (Dr. Snow, p. 161.)

Benzoic is the only acid, the exhibition of which will render the urine acid. (Dr. Bird, p. 158.)

Incontinence of, in Children.—Let the patient abstain from drinks for three hours before bed-time; empty the bladder on going to bed, and awaken in three hours to make water again. Blister the sacrum occasionally, to prevent sleeping on the back, and to stimulate the bladder; use cold shower bath or douche, and give ten drops each of tinct. cantharid. and tinct. ferri mur. thrice a-day. Sometimes cauterize the orifice of the urethra, that the passage of urine may excite pain. (Dr. Chambers, p. 162.)

In Young Persons.—Give strychnine, gr. ¼ to gr. ½ daily, and small enemata of quinæ sulph.; or give ext. belladon. gr. iij. daily. Continue the remedies for some time after it is apparently cured. (M. Gerdy, p. 162.)

When the urine is catarrhal, inject into the bladder solution of nitrate of silver; give ergot of rye and camphor, āā gr. x. daily, and rub the perineum and pelvis with camphor ointment. Or give strychnine or quinine, or four grains of cantharides powder daily. (M. Robert, 163.)

Give benzoic acid six grains night and morning, increasing the dose to twelve grains. (Dr. Fraene, p. 163.)

Retention from Spasmodic Stricture.—Try secale cornut. ʒss. infused in ℥iij. aq. bull., and strained when cold; ℥i. 6tis horis. (Dr. Lanyon, p. 163.)

Two scruples of ergot of rye may be given twice a-day, an hour or two before the bladder is distended. (Ed. *Braithwaite's Retrospect*, p. 164.)

From Stricture.—Give two grains of opium, and repeat it in an hour. (p. 274.)

From Paralysis of the Bladder, after Delivery.—Try galvanism. (Mr. Donovan, p. 231.)

Varicocele.—Apply pressure over the external ring, by means of the *moc-main* lever truss, so firmly as to take off the weight of the column of blood from the veins, without obstructing the spermatic artery. Let the truss be worn for some time after the symptoms are removed; and let fatigue, straining efforts, and constipation be avoided. (Mr. Curling, p. 281.)

SYPHILITIC AFFECTIONS.

Bubo.—Open as soon as matter can be felt, and by a very free incision, so as to prevent the lodgment of a drop of matter. (Prof. Porter, p. 287.)

Chancre.—*Indurated.—Local Treatment:* Substitute water-dressing for all irritating applications. If mollecular gangrene has commenced, use a lotion with ext. opii aquos, ʒij. rubbed down with a pint of water: or, opii crud ʒj.—ʒiv., aquæ Oj.: boil for half an hour and strain through tow. Sprinkle *fungous growths* with calomel, and place dry lint between the glans and prepuce. When induration remains after the sore is healed, bind a small pledget of lint upon the induration by a broad India-rubber band, such as is used for tying up small parcels.

General Treatment: Wait for a few days after induration commences to see if nature will do anything; then give mercury and continue its use while any hardening remains. (Mr. Acton, p. 296.)

Apply black wash to the sore, and when it is healed, and induration remains, rub on a little strong mercurial ointment, and keep constantly applied a piece of leather smeared with it.

Give in old cases small doses of hydr. c. cretâ, perseveringly, for a long time. If a quick action is desired give mercury by friction; but usually blue-pill is the best preparation. In phagedenic ulcers give calomel and opium so as rapidly to induce mercurial action, and when the phagedena is checked give a milder preparation. Some phagedenic sores, however, require local depletion and purgatives; others wine and opium. To unhealthy and exhausted subjects give hydriodate of potash and sarsaparilla. (Mr. Ormerod, p. 298.)

Give mercury always, except when particularly contra-indicated. It is contra-indicated whenever mortification is present, from whatever cause, and in whatever form it may appear. Carefully distinguish from phagedena the "livid irritable ulcer" of Howard, which latter will begin to clean and heal as soon as the gums are touched. (Prof. Porter, p. 285.)

GONORRHŒA.—In the gleety stage, use an injection with gallic acid. (Mr. Hughes, p. 159.)

SALIVATION.—Especially if produced by small doses of mercury given in an anæmic habit, give chlorate of potash internally. (Mr. Allison, p. 305.)

Gargle with an infusion of the leaves of ambrosia trifida, a common American plant, (Dr. Robertson, p. 305.)

SYPHILIS.—*Secondary.—Papular Eruptions.*—Treat antiphlogistically at first, then give mild mercurials, with tonics and the warm bath.

Scaly.—Give mercury, or, when slight, iodine will do.

Tubercular.—Iodine is the best remedy.

Pustular.—Give mercury cautiously, and apply yellow wash to the ulcers into which the pustules degenerate: if, however, these are large and shallow, give iodine: or if round and excavated, give opium with iodine, and nutritious diet, and apply black wash.

Ulceration of the Throat—Give mild mercurials; or, if sloughy, iodine with wine and good diet. Use cinnabar fumigations, especially to the excavated ulcer, but with caution.

Ulceration of the Larynx, Tongue, &c.—Give mercury or iodine, or both, according to the accompanying symptoms.

Pains in the Bones.—Iodine is the best remedy; but some cases require mercury, others incisions.

Nodes.—Give iodine: if recent and soft, apply mercurial ointment on a piece of leather. (Mr. Ormerod, p. 300.)

Eruptions—The best remedies are the iodides of mercury. Biett gave ℞. Hydrarg. biniod. gr. x., pulv. glycyrrh., ʒi. M. ft. pilul. lx. Dose two or three daily. But the protiodide is better: ℞. Hydr. protiodid. gr. x., pulv. glycyrrhiz. ʒss. M. ft. pilul. lx. Begin with one, and afterwards give two, three, or four, daily. In the more inveterate forms, as the tubercular, give twice the above quantity. Do not combine with opium, which neutralizes the effect. If the bowels become deranged, suspend its use for a few days.

Next in value to iodide of mercury, is that of potassium, in doses of six grains daily, increased to ten, or in obstinate cases, and where the constitution is not irritable, to half a drachm in the day. Topical remedies are not of much use. To dress an ulcerated surface use hydrarg. protiod. ℈i. to an ounce of lard. (M. Cazenave, p. 289.)

DISEASES OF THE SKIN.

Erysipelas.—Apply nitrate of silver both to the inflamed part, and to the healthy skin surrounding it. Give mercurial purgatives, and colchicum with magnes. sulph. and carb. (Dr. Basham, p. 312.)

Porrigo.—*Favosa.*—Remove encrustations by poultices, &c., and *clip* the hair, (not shave): wash night and morning with sod. carb., vel potas. bicarb. ʒij. ad aq. tepid ℔j.; and afterwards anoint with pot. bicarb. ʒij. ad axung. ℥ij. Or, use the following lotion and ointment.—℞. Pot. sulphur. ʒij., sapon. alb. ʒijss., liq. calcis ℥vij., S.V.R. ʒij. M. and ℞. Ung. picis ℥j., sulphur ʒij., axung. p.p. ʒvj., acid sulph. ♏viij., M. Carefully remove the dead hair; and keep the head uncovered within doors. (Dr. Davies, p. 306,)

Apply twice a-day the ung. hydr. ammon. chlorid., and give a calomel and jalap powder every three days. Treat P. *lupinosa* in the same manner. (Dr. Coley, p. 308.)

Apply freely the following, ℞. Ol. juniper ℥iss., axungiæ ℥ij., ol. anisi gtt. ij. (Dr. Sully, p. 309.)

Decalvans.—Rub for a minute or two with acid. acet. fort., so as to produce a white vesication. Use the same application to P. *scutulata*, but only apply it *lightly*. (Dr. Davies, p. 306.)

Do not remove the hairs; but rub solution of sulphate of copper upon the bald patches for several minutes, three times a-day; and give a purgative occasionally. (Dr. Coley, p. 308.)

PSORIASIS.—Give cod-liver oil; insert one or more issues at a distance from the part affected; and let the patient use warm baths with two gallons of *size* added to the water, or an equivalent quantity of isinglass, or calf's foot jelly. (Dr. Graves, p. 310.)

Of the Scalp.—Use hot-air sulphur-baths for fifteen or twenty minutes daily; and apply the following ointment at night: ℞. Hydrarg. biniod. ℈i., adep. ppt. ℥j., ol. limon. gtt. v. M. (Dr. Graves.)

Or, give hydrarg. bichlor. gr. one-sixteenth dissolved in sp. vin rect. ʒss. thrice a day, with decoction of bark and sarza, and apply dilute citrine ointment, with a third part of ung. ceræ alb. Sir P. Crampton. (Dr. Graves, p. 310.)

Give arsenic: withdrawing it for a few days at a time, when you perceive its physiological action on the system. (Dr. Begbie, p. 71.)

RINGWORM.—On the scalp, and especially on other parts: apply a blister a few lines larger than the spot, and dress with cotton wool. (Dr. Maclagan, p. 307.)

SMALL-POX.—*Confluent.*—To prevent scarring of the face by the cicatrices: apply blisters over the surface. (M. Piorry, p. 317.)

DISEASES OF THE EYE.

AMAUROSIS.—Employ galvanism, either passed across the orbit (Majendie); or influencing the optic nerve by the irritation of the fifth, (Grapengiesser); introduce into the nose a silver probe, from the silver end of the battery, and touch the region of the frontal nerve, well moistened, with the other pole. In more severe cases apply a blister before employing the galvanism. Take care not to excoriate the skin. (Mr. Donovan, p. 75.)

CATARACT.—*Extraction of.*—Use a knife smaller than Beer's, and with the angle at the shoulder rounded. (Mr. Cooper, p. 323.)

OPHTHALMIA.—*Gonorrhœal.*—Apply solution of nitrate of silver, ʒi. to ℥i. But if the patient is steady, use the solid nitrate; carry the pencil lightly over the lower and then the upper lid, observing not to touch the cornea, and immediately inject water, to remove uncombined caustic. Repeat the cauterization if required, in five or six hours. Excise or scarify chemosis *after* the caustic has been applied. (M. Ricord, p. 325.)

Scrofulous.—Give sulphate of quinine, combined with alterative doses of calomel. (Dr. Laycock, *Medical Gazette*, Nov. 27, 1846.)

Palpebral Tumours.—Do not touch until they are the size of a pea and present a yellow elevation internally; then, everting the eyelid, open from the conjunctival side with a small sharp scalpel; press out the contents with a small spatula, and touch the sac with a probe coated with lunar caustic, and smear with oil afterwards, to prevent irritation. If there is a fungous growth, remove with curved scissors.

There are other harder tumours, which must be removed from the outside. (Mr. Wilde, p. 321.)

Slit them through with a lancet or cataract knife, and squeeze out the contents. (Mr. Estlin, p. 322.)

Pupil.—*Artificial.*—Use Mr. Beaumont's forceps forseizing and detaching the iris. (p. 323.)

Staphyloma.—*Affecting the Cornea alone.*—Pass a curved needle, armed with a fine ligature, from below upwards through the cornea, the anterior chamber, and again through the cornea above; remove a portion of the cornea between the points where it has been pierced, in the usual way, and bring the edges together by the ligature.

General Staphyloma.—Tap the cornea with a spear-shaped needle, and when the globe is of the normal size, apply pressure upon the lids; repeat the operation every two or three days, for six or eight times. (Mr. Wilde, p. 319.)

MIDWIFERY AND THE DISEASES OF WOMEN.

Abortion.—*From Ulceration of the Cervix.*—Known by its repeated recurrence during the early months, pain in the hypogastric region, discharges, &c.; treat secundum artem, by cauterization of the ulcerated surface with arg. nit. &c. (Dr. Bennet, p. 362.)

Amenorrhœa.—On the day of the menstrual period give three pills thrice a-day, each containing two-thirds of a gr. of aloes, ergot of rye, and rue; apply 4 or 5 leeches to the vulva, and afterwards a vapour bath. Repeat these for four days at every menstrual period, increasing the number of pills. If the menstrual period is not known, begin upon any convenient day, and repeat the treatment in a month. (M. Lallemand, p. 401.)

Give extract of chenopodium olidum, gr. v.—x. night and morning, for a fortnight before the period. (Mr. Houlton, p. 401.)

Dysmenorrhœa.—There are *two* varieties: the *mechanical*, where the catamenia are scanty, and there is contraction of the os uteri, either congenital or acquired; and the *membranous*, in which the menses are natural, or profuse in quantity, and accompanied by the expulsion of a membrane from the womb, the uterus being large, hard, and sometimes retroverted. This is primarily an affection of the ovary.

In the first variety, if the womb itself is of the natural size, dilate the os uteri with Dr. Simpson's concealed bistoury, and insert a sponge tent. After a day or two pass a German silver stem, and repeat this at intervals of a week, gradually increasing the size, until the normal condition of the opening is obtained. If the womb itself is not fully developed, division of the os will do no good.

In *membranous* dysmenorrhœa, which is the most common, enjoin rest, and allow nutritive but unstimulating diet. Give pil. hydrarg. gr. ij. with ext. conii, gr. iij. night and morning; or Plummer's pill, gr. v. night and morning, till the gums are slightly tender. Then give liq. hydrarg. bichlor. ʒj. in sarsaparilla or bark. If the patient does not bear mercury well, give the latter preparation from the first, instead of the pills, as it is really not a bad tonic; and rub a little ung. hydrarg. with ext. belladon. over the inguinal region. Apply 3 or 4 leeches to the upper and back part of the vagina once a week, and use hip-baths, or poppy fomentations; and when the size of the womb is thus reduced, blister the sacrum occasionally.

When the gums have become sore, give small doses of potas. iodid. or of the liq. potas. arsen. administered according to Mr. Hunt's method. See *Retrospect*, vol. xiv., p. 302.

When the uterus is retroverted, replace it by pressing with the finger upon the anterior part of the cervix, and let the patient wear an elastic abdominal belt, with a perineal support. Lastly, if the womb is very hard, and has been long displaced, support it by Dr. Simpson's metallic stem. The use of mercury and leeching are the most important parts of the treatment. (Dr. Oldham, p. 388—397.)

PLACENTA PRÆVIA.—*Partial.*—Rupture the membranes as soon as possible, and excite uterine action by friction, the application of a binder, ergot of rye, or galvanism.

Complete.—If the os is undilated and rigid, *plug* with a sponge dipped in vinegar and water; when the os is sufficiently dilated, seize a foot and deliver cautiously. In head presentation, with a dead child, use craniotomy; and in both this case and that of foot presentation, rupture the membranes early through the placenta, by a silver catheter. (Dr. Tyler, p. 338.)

When the hæmorrhage and exhaustion are very great, and when turning, &c. are impracticable, on account of the undilated state of the os and cervix, especially in primiparæ, or the contracted state of the uterus itself, or the narrowness of the pelvis; or when turning is dangerous on account of the exhaustion of the mother, or not required for the safety of the child, on account of its death or prematurity, *detach the placenta*, and leave the expulsion of the child to nature, if the hæmorrhage, as is usually the case, ceases, and no particular complication arises. (Dr. Simpson, p. 243.)

When the vital powers are much depressed, and the placenta partially detached, plugging is dangerous. So are the administration of secale cornutum, and delivery of the child, because they lower still more the powers of the system. Detach completely the placenta, and employ galvanism, which both rouses the uterus, and stimulates generally. (Dr. Radford, p. 333.)

Turn as soon as possible, extract the placenta, and get the uterus to contract: taking care to keep up the pulse. If the strength is too much exhausted for this, or if the os uteri will not admit the hand, separate the placenta if possible; rupture the membranes with the nail, and *plug the vagina completely:* then give ergot of rye, and apply cold, or galvanism. When the pulse rallies, withdraw the plug, and if possible turn; if this cannot be done, plug again and wait. It is plain that if we cannot deliver, we must directly stop the bleeding; and plugging in the case supposed, where the placenta is low down, is quite effectual. (Mr. Braithwaite, p. 335.)

When largely attached, adherent, and thick, perforate the placenta, turn and rapidly extract the child. (M. Negrier, p. 339.)

In the advanced stage, introduce the hand, and turn: the pressure of the hand and afterwards the child, will act as a plug until the delivery is ended. (p. 337.)

Retained Placenta.—Empty the umbilical vein, and forcibly inject cold water slightly acidulated with acetic acid; or if there is much hæmorrhage, cold decoction of ergot, or solution of tannic acid. (Dr. Cattell, p. 344.)

POLYPUS UTERI.—Several instruments are used for applying ligatures, as Levret's, Nissen's, Clarke's and Gooch's. Try the following: put a ligature into two tubes of the size and shape of a No. 8 male catheter, except that they are flattened at the sides. Then placing the patient on her left side with the thighs well flexed and separated, introduce the two canulæ, laid side by side, into the vagina, with their concavity to the arch of the pubes: hold one firmly, and pass the other round the polypus to the other side of its fellow: withdraw them, and tighten the ligature on a straight canula. (Dr. Oke, p. 386.)

PREGNANCY.—A good diagnostic is the enlargement of the *anterior* wall of the womb, its ordinary flatness becoming effaced by the fourth or fifth week. In *congestion* of the womb, it is the *posterior* wall which is chiefly enlarged. (Dr. Oldham, p. 395.)

HÆMORRHAGE.—*Uterine.*—Is stopped by contraction of the bleeding orifices, and by coagulation of the blood: the tendency to both of these is increased by weakening the body. Therefore encourage faintness to some degree, and prevent motion of the body and agitation of mind. (Mr. Hewson, p. 328.)

In certain forms, gallic acid is of great service. (Mr. Hughes, p. 159.)

During Pregnancy.—In relaxed habits, give oxide of silver a grain thrice a day. (Dr. Durrant, p. 347.)

During Labour.—The placenta *not* presenting: if the os is closed plug the vagina; if it is open and supple, perforate the membranes, and if hæmorrhage continues again plug. When the uterus begins to contract, give ergot of rye, and as the child is expelled, secure contraction of the womb by friction and compression of the belly. Bleedings from the cervix are the only ones that kill. (M. Negrier, p. 339.)

After Delivery.—Inject cold water plentifully, by a double valved syringe, through a tube introduced into the uterus. (Mr. Selby, p. 347.)

From Retained Placenta.—(See *Placenta.*)

Leucorrhœa.—There are two species of *uterine* leucorrhœa; in one the disease is in the cervix, and the secretion is alkaline; and in the other, the secretion is acid, and the disease in the fundus. introduce the speculum and pass a gum tube containing a stilet armed with litmus paper, for about an inch into the cervix: protrude the stilet and let it remain till moistened. Thus we find the nature of the secretion; if it is alkaline, again introduce the tube without the stilet, and inject by means of a gum-elastic bottle, a solution of sulphuric acid, half a drachm of acid to an ounce of water, or of acetate of lead of the same strength. If the lips of the os are abraded, touch with arg. nit. before passing the instrument. If the mucous glands of the cervix are enlarged, pass the tube; and having wiped it clean from mucus, smear the end with ointment of arg. nit. gr. x. to ung. cetac. ʒj, and again pass it. (Dr. Mitchell, p. 399.)

Dissolve arg. nitr., one part in twenty-five of water, and mix with seventy-five of cerate. Put gr. xxx. to xlv. into a thin muslin bag; insert the forefinger into it, and introduce into the vagina, so as to smear the ointment completely over it. (M. Legrand, p. 400.)

Ovarian Disease.—Make an incision, three inches long, below the umbilicus. If possible, draw out and excise a portion of the sac, and unite its edges to the lips of the external wound; or, evacuate its contents, and insert a plug to prevent closure of the wound. The cure will occasionally be effected by granulation and suppuration. (Mr. Bainbrigge, p. 373.)

Mr. Currie, of Liverpool, and Le Dran, have successfully operated in the same manner, observing to secure the internal

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to the external opening, if that is not already done by the adhesion of the sac to the abdominal wall. (p. 375.)

Puncture the cyst through the vagina, and keep the wound open. In some cases a cure is effected by a natural opening into the rectum or bladder. (Dr. Elliotson, &c., p. 378.)

Ovarian Tumour.—If the diagnosis is clear, the disease at an early stage, and other circumstances favourable, extirpate the tumour. If not, use frequent tappings, with constitutional treatment. For the most part, abstain from mercurials, drastic purgatives, and diuretics; but especially avoid compression, or the puncture of the cyst, while the patient is under the influence of mercury. (Dr. F. Bird, p. 317.)

If the tumour is solid, do not meddle with it. If a unilocular cyst, tap *once*, and apply pressure for several months: mercury and diuretics do harm. If the tumour is malignant or many-cysted, tapping and pressure will do no good: in these cases alone is extirpation indicated, and in these is it *least* likely to do good. (Dr. Locock, p. 381.)

Ovarian Dropsy.—As *palliatives*, give iodide of potassium with squill and juniper. After tapping, introduce a small silk cord as a *tent*, by which the water may be occasionally evacuated. *For a radical cure*, inject a solution of iodine into the sac. (Dr. Allison, p. 380.)

UTERUS.—*Diseases of.*—In first examinations, use the *four-bladed speculum*. If the os is not readily caught, ascertain carefully its position with the finger, pass the instrument well up, and if, on withdrawing the plug, the os is not seen, withdraw the speculum slowly, expanding it at the same time.

When making applications to the os or the vagina, use Fergusson's glass speculum. (Dr. Kennedy, p. 347.)

Congestion.—Apply three to six leeches *directly* to the uterus, or scarify, injecting warm water through the speculum for some time after. Repeat this several times, and then make a caustic issue over the pelvis or sacrum. Inject cold or tepid water into the vagina thrice a-day; also mild astringent lotions. Give alteratives—Pullna water, sarza, iodine, pil. plum., and taraxacum. Be cautious about using tonics. If the menses are interrupted, use the hip-bath, and apply a few leeches to the uterus, at the period. (Dr. Kennedy, p. 350.)

Chronic Catarrh.—Dilate the os internum by gutta percha bougies, and apply nitrate of silver by a port caustic, or nitrate of mercury by a camel hair brush with a graduated handle, introduced through a gum tube After cauterizing three or four times, at intervals of eight or ten days, use, every three or four days, lotions of nitrate of silver or copper, ten grains to the ounce, and afterwards milder lotions with lead or zinc. Apply leeches; use counter-irritation by sinapisms, tartar-emetic ointment, or an

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issue; and give cubebs, or mild tonics and alteratives. (Dr Kennedy, p. 358.)

Inflammation.—Use general and local depletion, antiphlogistic regimen, mercury and counter-irritation, the warm bath and soothing injections, and perfect quiet. (Dr. Kennedy, p. 351.)

Ulceration.—Mild.—If it is not easily detected, brush over with a ten grain solution of nitrate of silver, which will mark its outline; then use, for ten days, a lotion with plumb. acet. gr. i. ad aq. dist. ℥i. In applying lotions, lay the shoulders lower than the hips, and inject a continuous stream, for some minutes, by a "gum-elastic syphon."

Granular.—Get rid of or relieve the inflammation by depletion, &c.; then apply caustic, at intervals of seven or ten days, three or four times, using in the interim mild astringent or emollient lotions, according to the symptoms.

Cock's Comb Ulcer.—Apply caustic more freely, using the nitrate of mercury, so as to form a slough.

Bleeding Ulcer.—Lay a piece of lint carefully round the margin of the ulcers, then apply caustic *freely;* apply it also to the interior of the uterus, if the lining membrane is diseased—taking care to have the caustic melted into a port-caustic, to prevent its breaking; afterwards wash out the vagina with a stream of water. Continue the application at intervals, till the muco-purulent discharge ceases, and the mucous membrane ceases to bleed on being touched.

If aphtha appear when an ulcer is nearly healed, apply a stream of borax or weak nitrate of silver lotion. (Dr. Kennedy, p. 352–6.)

VARIOUS SUBJECTS.

Amputation—In muscular limbs, transfix the muscles superficially, to form the flaps, and complete the operation by circular incisions. (Dr. Cotton, p. 204.)

Burns.—*Of the first and second degree.*—Apply a compress dipped in a concentrated solution of caustic ammonia, and cover with oiled silk: the pain will be removed, and this state of ease continue longer as the ammonia is more concentrated. When smarting is again felt, reapply the ammonia: continue this for an hour or more, and then leave the burn uncovered. Observe to handle the compresses with forceps; do not touch the conjunctiva with the ammonia; and do not let the patient breathe its vapour. (M. Guerard, *Monthly Journal*, March, p. 697.)

Bursal Disease.—If recent, and the fluid is only an increase of the natural secretion, apply blisters, or tinct. iodin. Or, introduce a fine thread as a seton, withdrawing it the second day.

When they contain matter, make a free opening. Do not *remove* a bursa merely for its inconvenience. (Mr. Ormerod, p. 201.)

The removal of diseased bursa of the patella is liable to be followed by fatal consequences. (Mr. Smith, p. 203.)

Consolidated Bursa.—Rub in a strong solution of iodine, and cover the part with lint and sticking plaster, to prevent the volatization of the iodine. (Mr, Liston.)

Introduce a seton of eight or ten threads, and poultice. Mr. Hender. (Mr. Brown, p. 199.)

Acutely Inflamed Bursa.—Keep the limb quiet and in an elevated position, apply poultices, and rub in the tartar-emetic ointment combined with mercurial ointment. (Mr. Brown, p. 200.)

BRONCHOCELE.—If other means have failed, try seton: use a large curved needle, with its eye full of doubled silk thread: after ten or twelve days, substitute a larger seton, for the same period, or until suppuration is fully established. (Dr. Kennedy, *Dublin Journal*, Feb. p. 270.)

CUPPING.—Use gun-cotton instead of spirit: introduce a small portion under the glass, and ignite with lighted paper. (*Lancet*, Dec. 19, 1846.)

DISLOCATIONS.—Put the patient under the influence of ether to relax the muscles, when reduction may be easily effected. (Mr. Radcliffe, p. 191.)

Dislocated Thumb—Seat the patient with his back to the surgeon, and carry the arm, with the wrist and thumb bent, over the shoulder; then make extension. (Mr. Ormerod, p. 192.)

ELECTRO-MAGNETISM.—In affections of the *sensitive* nerves give the 'break' shock: when it is wished to influence the *motor* nerves, use the 'make' shock; as also in affections of the eye, where there is acute sensibility. They may be given separately by means of Letheby's apparatus. Always pass the current in the route of the nervous influence, viz, from the centre to the peripheral extremities, in motor nerves, and in the opposite direction, in the sensory. (Dr. Letheby, *Medical Gazette*, Nov. 13, 1846, p. 858.)

FRACTURE.—*Of the Thigh.*—Employ the long splint, with a long inguinal band up to the axilla. If both thighs are broken, Earle's bed may be used. (Mr. Ormerod, p. 165.)

Of the Leg (low down).—To prevent the tibia projecting, lay the limb on the outside; flexed, with side splints,—a straight splint in front, reaching from the patella to the lower third of the leg, and one behind, from the ham to beyond the heel. (Mr. Ormerod, p. 166.)

Of the Upper Extremity.—Use Mr. Keal's arm-sling. (p. 71.)

Galvanism.—*Application of.*—For *exalting enfeebled irritability*, let the current pass in an opposite direction to that of the nervous energy: e.g., place the silver plate over the origin of the nerve, and the zinc plate over the muscle. The length of time between each shock is as important to be observed as the strength of the shock itself: a rapid succession of weak shocks is more painful, and not always so advantageous as a slower series of more powerful ones: use *clock-machinery* to regulate the intervals.

To *deep-seated parts* use acupuncture needles of steel or platinum, connected with the poles of the battery. (Mr. Donovan, p. 72.)

Ganglion.—Puncture the cyst subcutaneously, and carry the point of the bistoury through the *distal* wall of the sac; squeeze out the contents into the cellular tissue, through the second opening. (Mr. Liston.)

Pass on a small seton through the tumour. (Mr. Brown’ p. 199.)

Hygiene.—*Sewerage.*—*Do away with cesspools:* if rats are to be kept out, make a slate trap upon the sewer; but if possible do without this. For square drains substitute tubular ones, pipes of earthenware glazed inside, of not less than 3½ inches diameter. (Dr. Stark, p. 4.)

Street sewers should be regularly flushed in dry weather, as an important means of preventing cholera, diarrhœa, and fever. (Dr. Laycock, p. 8.)

Joints, Diseased.—In inflammation and all other diseases of joints, complete repose of the affected part is absolutely required, even when motion gives no immediate pain. Use for this purpose Mr. Barrow’s instrument, described at p. 193.

When a blister is required, if the patient is fat, put it upon the knee; but if spare, it must not be put upon the knee itself. A good liniment for affections of the joints in the following: Take of olive oil ℥iss, sulphuric acid, ʒss. Mix well together, and add oil of turpentine ℥ss. It makes a black liniment; to be rubbed on with lint twice a day. (Sir B. Brodie, *Medical Times*, Jan. 30, p. 337.)

If issues are used, make one of moderate size, and when it is nearly healed make another at a different part of the joint; and do this again and again. If an issue is kept open (which is not advisable), it must not be with peas, but by occasionally retouching with caustic. (Dr. Brownless, p. 195.)

Removal of Loose Cartilages.—With a narrow bistoury make a bed for the loose body, beneath the skin between the tendon of the biceps, and the vastus internus, by a crucial subcutaneous incision. Without withdrawing the knife from the second incision, direct it on to the cartilage and divide the capsule freely, in the direction of the limb. Withdraw the body from the joint to the bed prepared for it: close the aperture by a bit of plaster, and enjoin rest for a few days. No further proceedings are necessary. (Mr. Liston, p. 197.)

Divide the capsule subcutaneously upon the foreign body, and push the latter out of the joint into the cellular tissue: in a few days remove it by incision. (M. Goyrand, p. 196.)

Poisoning.—*By Hydrocyanic Acid.*—Dash cold water upon the head and face, but *do not immerse* the body in water. Give the patient *a good shaking;* this is often of great value. Give an emetic: if the quantity of poison taken has not been great, or the stomach is from other causes not under its influence, vomiting will take place, and is the precursor of recovery. Bleeding may do good in some cases, but not as a general rule: the same applies to ammonia. Other remedies, chlorine, alkalies, salts of silver and iron, ether, and electricity, are alike unavailing.

(See Mr. Nunneley's valuable paper in the *Provincial Medical and Surgical Transactions*, vol. xv.)

By Opium.—To children, if an antimonial emetic is used, give only one dose. Restore the sensibility by other means, and then vomiting will come on. (Dr. Beck, p. 133.)

Spina Bifida.—Apply *support*, not *pressure*, by a pad of lint, secured by lead plaster, and changed every other day. Operate early, if the health is good. Lay the child upon its back, with the nates higher than the head; puncture the tumour at an inch from its base, with a flat needle, and draw off ℥ss.—℥ij. of the fluid, regulating the quantity by the appearance of the countenance. Apply a small pad of lint, secured by plaster; then a pad of cork fastened in the same way; and over that, a piece of pasteboard bound on by a roller. Repeat the operation at intervals of a week or two, for seven or eight times; and then apply *pressure* by a padded tin splint, the shape of the loins. Continue the use of this till the age of 12 or 14, and then substitute a Salmon and Ody's truss. (Mr. Hawthorn, p. 190.)

When the tumour is pediculated, and appears to contain no nervous cords, it may be removed. For some time apply an elastic india-rubber ligature round the base, to diminish its size. Then having carefully dissected the skin from the cyst down to its base, put a tight ligature on, and remove the cyst.

As a palliative, apply pressure by a hollow truss, or otherwise; and occasionally to prevent ulceration, tap with a small trocar, observing to puncture the tumour at its lower part, to avoid the cord and nerves. (Mr. Page, p. 186.)

Spine.—*Lateral Curvature from Relaxed Ligaments.*—If the patient is 19 or 20, treatment is of no avail; it must be begun if possible at 13 or 14, and patiently continued. Improve the general health by country and sea-side residence, open-air exercise, tonics, &c. Strengthen the muscles of the back by climbing and other exercises; for which in delicate girls friction and shampooing for an hour or two daily may be substituted. And let the patient lie down either a part or the whole of the time that she is not engaged in exercise.

In *inveterate cases*, as where one scapula is three times as far from the spinous processes as the other, it is necessary to use artificial support. The patient may walk on crutches, so high, that only the toe can be placed on the ground, or wear a machine to take the weight of the shoulders off the spine, and to make pressure on the projecting ribs. Some of the best are those made by Bigg, of Leicester-square, Laurie. of Bartholomew close, and that known as Tavernier's lever belt. (Sir B. Brodie, p. 180)

From Rickets.—The general treatment is the same as that for rickets generally. *Instruments are worse than useless.* (Sir B. Brodie, p. 176.)

Injuries of.—The urine is alkaline, because the bladder, being paralysed, cannot expel the whole of its contents, and a little is constantly retained. Wash the bladder out with warm water every day or two. (Dr. Snow, p. 161.)

SPLINTS.—For fractures, diseased joints, and other cases where support or pressure are required, they may be made from gutta percha. When rolled out into tablets of the requisite thickness, it is readily moulded into any form, after soaking in hot water. (Mr. Smee, p. 169.)

TEETH.—*Caries of.*—Examine with a pointed steel probe whether the caries is superficial or not; if the former, remove the affected part by a scaulper or file, and polish the exposed dentine. Take care to keep it polished, and if the saliva is acid, use an alkaline dentifrice. If the part is very sensitive, reduce the sensitiveness by lunar caustic, or chloride of zinc, before removing it. If the caries extends deep, plug the cavity with gold, platina, tin or lead foils, or an amalgam of palladium or silver. (Mr. Tomes, p. 174.)

Stop with gutta percha. (Dr. Montgomerie, p. 170.)

ULCERS.—*Unhealthy.*—Apply dry heat, by holding a red-hot cautery iron at such a distance as to produce agreeable warmth, and bringing it nearer and nearer as it cools. (Dr. Barnes, *Lancet*, Jan. 23, p. 109.)

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